

Docket # OPMD-0184
Item 2

INTERNATIONAL HARVESTER

DONALD D. LENNOX
Chairman of the Board and
Chief Executive Officer

September 26, 1983

A-96-01
II-A-958

The Honorable William D. Ruckelshaus
Administrator
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Dear Mr. Ruckelshaus:

Attached to this letter is a petition in which International Harvester Company requests that the 80 dBA noise standard be deferred beyond the January 1, 1986 effective date until such time as the air emissions standards that were until recently scheduled to be put into effect for the 1986 model year are actually implemented.

In announcing the EPA's three-year delay of the 80 dBA standard in February 1982, the agency cited the need to provide near-term economic relief to the truck industry and "to permit manufacturers to align and economize the design requirements attendant to the 80 dBA standard with improved fuel economy designs and federal air emissions standards anticipated in the 1986 timeframe."

As you know, the economic condition of the truck industry has deteriorated considerably since February 1982. In fact, sales for 1983 are running well below levels projected at that time, and the recovery in the truck markets that had been hoped for has not yet materialized. Since IH's other major business--agricultural equipment--is even more depressed than the truck business and its prospects for recovery are also more remote, any additional expense that diminishes the profit potential of the truck operations has a disproportionate impact on the entire company.

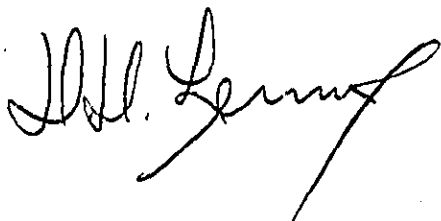
During the 1985-88 period, IH and other heavy-duty engine manufacturers expect to incorporate major modifications that will significantly enhance fuel economy. However, further modifications must be made to incorporate the technology that will be required to meet the 1989 air emission standards, and those changes will in turn make necessary further modifications to meet an 80 dBA noise standard. Deferring the implementation of the 80 dBA standard to coincide with the introduction of the 1989 engines would save manufacturers the additional cost needed to bring the interim, fuel-efficient 1985-88 engines into compliance with the more stringent noise standard.

Finally, the lower than anticipated truck sales volumes mentioned above alter any previous cost/benefit analysis of the 80 dBA standard. The per-vehicle cost of compliance is increased, while the actual benefit to the community at large is reduced because fewer new and quiet trucks will be in operation than was originally expected.

*Not true
This does not
anticipate
changes in
the future.*

I urge you to give favorable and expeditious consideration to this petition. If you or your staff would like to discuss any aspect of this petition further, please contact me or Mr. Dean Stanley, Vice President, Engineering, Truck Group, International Harvester Company, at (219) 461-5907.

Sincerely yours,



KF telephone contacted D. Stanley on 3/21/84 re meeting on 3/29.

INTERNATIONAL HARVESTER COMPANY

**Petition for Amendment
Title 40 Code of Federal Regulations 1, Part 205
Noise Regulation for Medium and Heavy Trucks**

**Presented to
The Honorable William D. Ruckelshaus
Administrator, U.S. Environmental Protection Agency
September 26, 1983**

International Harvester Company herein petitions the Administrator to grant an additional interim deferral of the 80 dBA noise standard beyond the current January 1, 1986 effective date.

The February 17, 1982 Federal Register contained EPA's previous rationale for deferring the implementation of the standard from 1983 to 1986. The information contained in this petition demonstrates that the same reasons for which EPA decided to grant the earlier three-year delay still exist--perhaps even to a greater degree. IH therefore requests an additional interim deferral of the standard. IH firmly believes that EPA's own data demonstrate that an additional deferral will not impose an undue risk to the public's health and welfare during this interim period.

EPA stated in the February 17, 1982 Federal Register that the purpose of its three-year delay (from 1983 to 1986) was twofold:

"First, to provide near-term economic relief to the truck industry by allowing them to temporarily divert those resources that would otherwise be used to comply with the 1983 80 dBA standard to help meet their near-term economic recovery needs; and second, to permit manufacturers to align and economize the design requirements attendant to the 80 dBA standard with improved fuel economy designs and Federal air emissions standards anticipated in the 1986 timeframe."

EPA's above-stated reasons for the previous delay are even more applicable to the truck industry today than they were in February 1982, in view of the following:

1. The economic condition of the truck industry has drastically deteriorated since the February 1982 deferral; and
2. The air emission standards that were scheduled to become effective in the 1986 timeframe will probably not be implemented until the 1989 timeframe.

The following additional comments are intended to further emphasize the need for the additional delay being requested:

1. Depressed State of the Truck Industry

To date, the truck industry has not shown any significant recovery from the recession that started in 1980. The motor carrier industry has just suffered its worst financial results in history, with over 43 per cent of ICC-regulated carriers showing an operating loss in 1982. In addition, over 300 major carriers have gone out of business altogether, are in Chapter 11 bankruptcy, or have reduced or altered service since July of 1980 (American Trucking Association, Inc., "What Is The Industry's Financial Condition?", copy attached; also, see "Truckers On The Skids", Industry Week, July 25, 1983, copy attached).

Largely as a result of this situation in the trucking industry, truck manufacturers have seen their sales volumes plummet. U.S. medium/heavy truck industry sales for 1982 were 54.5 per cent lower than 1979 sales (according to MVMA Motor Vehicle Facts & Figures, 1983) and sales thus far in 1983 have not improved. The decline for Class VIII sales has been even more dramatic. Projected 1983 sales are 73,000 units compared to 192,889 units in 1979--a reduction of 62.1 per cent. This overall decline is even more significant when compared to the

sales volumes that were being projected at the time EPA was petitioned by industry for the previous delay. At that time, total 1983 Class VI through VIII sales were projected to be approximately 315,000 units, of which Class VIII sales were projected at 185,000 units (See IH letter dated December 23, 1980, copy attached). Thus, current estimated 1983 Class VI through VIII sales are running at 58 per cent (183,000 versus 315,000), and Class VIII sales at 38.8 per cent (73,000 versus 187,800), of the earlier sales projections.

IH has continued to update projected vehicle consumer cost increases for the 80 dBA effects. This task is complicated by the uncertainty as to exactly which engines will be in production in 1986 and the length of time they will remain in production. However, we can identify two different cost scenarios that will provide a probable range of the increased consumer cost. Our cost projections furnished to EPA by letter of December 23, 1980 indicated a cost penalty of \$360 for medium-duty diesels, which are mostly Classes VI and VII (19,501 to 33,000 lbs. GVW), and \$515 for heavy-duty diesels in Class VIII (above 33,000 lbs. GVW). We recently updated the cost scenario of maintaining our basic existing engine lineup for 1986, and the respective projections are \$295 for medium and \$435 for heavy diesels. We believe the actual costs would fall somewhere within the range of these two scenarios.

2. International Harvester's Financial Status

In recent years, International Harvester Company has suffered a dramatic series of losses and a significant decline in its traditional markets. As shown below, the Company's last profitable year was 1979, when worldwide net income reached \$370 million on record sales of \$8.4 billion, with substantial record losses occurring each year thereafter:

	<u>Sales</u> (Billions)	<u>Net Income (Loss)</u> (Millions)
1979	\$8.4	\$370
1980	6.3	(397)
1981	7.0	(393)
1982	4.3	(1,638)
1983 (Forecast)	3.7	(400+)

Contributing factors to IH's depressed financial condition include a six-month strike in 1980 by its major union, the United Auto Workers; record-high interest rates; and a general recession that started in 1980, leaving IH with excess production capacity. For the first time in history, all three of IH's principal markets (trucks, agricultural equipment, and construction machinery) were depressed on a worldwide basis at the same time.

In an effort to minimize cash flow losses, IH management implemented drastic cost-cutting measures. As part of this effort, the company is concentrating its resources on the following core business: Medium and heavy duty trucks in North America, and agricultural equipment and engines in North America and Western Europe. Operations not related to these core product lines are being disposed of. These include major actions such as the sale of its construction equipment business to Dresser Industries in November 1982, the sale of the axle/transmission operations to Dana Corporation in late 1982, the consolidation of U.S. truck manufacturing operations at its Springfield, Ohio plant (leading to the closing of the Fort Wayne, Indiana truck assembly operations), and the closing of or announced intention to sell or close plants in Louisville, KY; Chicago, IL; Canton, IL; and Shadyside, OH. IH also sold operations in New Zealand, the Netherlands, and the Philippines, and has closed plants in Australia and Great Britain.

Although IH has made substantial progress in downsizing its operations and reducing its break-even point, the company remains dependent on an upturn in its major markets for its eventual survival. Recovery in the truck market, which the company had forecast for 1983, has not materialized to the extent earlier predicted.

During this same time period, and as a result of the U.S. economic recession, the 1980 deregulation law and the 1982 Surface Transportation Assistance Act, the trucking industry has experienced, and is continuing to experience, the greatest structural changes in its history. As a result, IH's limited available resources must be focused on responding to major changes in market conditions and demand. Implementation of the 80 dBA noise standard in 1986 will divert manpower and critical capital resources that would otherwise be expended to meet other necessary customer needs in 1984 and succeeding years.

Since our other core business (manufacturing agricultural equipment) is substantially more depressed than the truck business, the performance of IH's Truck Group is particularly crucial to the company's ability to survive. Therefore, healthy profitability of the Truck Group is being looked to as a necessary means of maintaining liquidity of the corporation until such time as agricultural sales recover. This makes it even more important that the Truck Group be able to concentrate its available resources on general business opportunities. A further delay of the 80 dBA standard will be quite beneficial to IH, by helping it to conserve and effectively utilize its vital resources.

3. Present and Future Engine Designs

In the February 17, 1982 Federal Register, EPA stated that one purpose of the three-year delay was to permit manufacturers to align, and thus economize, the design requirements of the 80 dBA standard with improved fuel economy designs and federal air emission standards anticipated in 1986.

In July 1982, EPA heard testimony on the non-availability of automatic regenerators for particulate oxidizer traps and, therefore, the lack of available technology to meet a stringent heavy-duty engine particulate standard in 1986. Manufacturers indicated that such technology would not be available at least until the 1988-89 timeframe, if then.

Engine suppliers at this time cannot describe the precise engine changes needed in 1988-89 to meet the new air emission standards. However, they are convinced that low flow cooling, electronic fuel controls, aftercooling, and charge air cooling are some of the technologies that will be required. Coincident with the requirement to reduce emissions is the need to improve fuel efficiency. Since many of the above technologies improve fuel economy, engine manufacturers have design and development programs under way to put them into production prior to enactment of the anticipated air emissions regulations. Due to the complexity and scope of the programs, most manufacturers plan to incorporate these new features into their engine families between 1985 and 1988. Even with the new technology in production, they believe that further calibration changes and redesign of some components and/or systems will be necessary to enable them to meet expected future air emission requirements, except for the particulate standards.

With the new interim engines planned for introduction at various dates between 1985 and 1988, old engine designs will be dropped from production. Thus, implementation of the 80 dBA standard on January 1, 1986 would require use of many noise components and/or systems with a life expectancy of only one or two years. The engineering and manufacturing expense needed to develop and produce these systems would not be recovered. With the interim fuel-efficient engines being introduced between 1985 and the time new air emission engines are implemented, the additional complexity and expense needed to bring these interim engines into compliance with the more stringent noise regulations could be avoided with the delay being requested herein. Deferring the implementation date of the 80 dBA standard to coincide with the new engines designed to meet the expected air emission standards would prevent considerable duplication of effort and, therefore, eliminate associated manufacturer and consumer costs.

4. Near-Term Health and Welfare Effects

An additional deferral in the 80 dBA standard will have very little effect on the health and welfare of the populace affected by the noise from medium and heavy duty trucks. / (X)

As previously stated by IH, a sales-weighted sound level analysis of our total truck production for 1979 indicated an average noise level of 80.5 dBA. Thus, as new trucks continue to replace old vehicles the average community noise level will continue to decrease. This is not to infer that compliance with the 80 dBA standard will be easy. In order to assure compliance with a not-to-exceed 80 dBA standard, production units will have to be designed to achieve an acceptable / (X)
T.M.C

margin of safety under the standard. As discussed earlier, new and revised components and/or hardware will be necessary and will be reflected in an increase in the purchase price of the vehicle.

At this time, it is not the intent of this petition to debate whether or not the community noise benefits are commensurate with the associated costs of the 80 dBA standard. However, we believe a comment is in order, particularly since a consensus on that issue has not been established. As noted earlier, current truck sales are drastically lower than the volumes on which the cost/benefit analysis was based (i.e., Class VIII sales for 1983 are 61.2 per cent less than projected as noted earlier). It would appear that this development will result in fewer total benefits to society than originally projected by EPA, thus making the standard less cost beneficial. (X)

Conclusions

In summary, International Harvester Company requests that you give favorable consideration to our request for an additional deferral of the 1986 dBA standard. Considering that little risk to the public's health and welfare is involved compared to the cost increases and the depressed state of the trucking industry, and in particular IH's financial condition, we believe that such action is warranted. It will preclude the need for redundant vehicle certification efforts, permit redirection of available limited resources to more productive programs, and thus contribute to IH's assurance of survival.



INTERNATIONAL HARVESTER

December 23, 1980

Mr. David G. Hawkins
Assistant Administrator
U. S. Environmental Protection Agency
Washington, D.C. 20460

Subject: Petition for Reconsideration -
1982 Medium and Heavy
Truck Noise Emission
Regulation.

Dear Mr. Hawkins:

A meeting was held on December 18, 1980 with combined EPA and IH staff representation to discuss and clarify the various aspects and questions raised in your November 18, 1980 letter to International Harvester Truck Group President Mr. J. Patrick Kaine. A copy of the presentation is attached for your information. During the meeting, several other requests were made for further clarification of the issues presented in our second submission to Mr. Costle dated October 2, 1980. The answers to these additional issues follow.

1. Additional Cost Items

It was noted in the December 18, 1980 meeting that the IH reported National Economic Impact values included only the vehicle purchase price increase to the consumer in constant 1981 dollars. As such, several additional cost items, as mentioned in the petition submissions and in the meeting, must be considered in an aggregate analysis of the economic effect.

(A) Transmission Cover Cost Effect

As noted in the December 18 meeting, our current analysis suggests an approximate additional \$2.8 to \$3.5 million dollar impact to the economy due to the added usage of transmission covers. This was not previously included in the EPA Background Document.

(B) Inflationary Impact

The National Economic Impact values were as previously noted in constant 1981 dollars. Therefore, the anticipated inflationary increases for the years 1982, 1983, and 1984

should be included. This would represent an additional accumulative impact of over \$40 million for the three year period noted.

(C) Fuel Loss

The economic impact of the fuel lost due to weight increase of the 80 dB(A) components was likewise not included in our National Economic Impact values. As reported previously, IH estimated the fuel lost economic impact based on the sales weighted, 10 typical vehicle scenario to be \$1,785,000 in 1982, \$2,482,000 in 1983 and \$2,973,100 in 1984. We now believe these values to be fairly conservative but necessary additions to an overall analysis. The fuel losses noted here do not include losses due to engine backpressure and air restriction increases.

(D) Increased Maintenance Costs

The initial EPA Background Document did not consider the transmission cover issues. As such, the EPA maintenance cost analysis did not account for this situation. International Harvester has determined that an additional service time of one-half hour is required to remove and replace the proposed transmission cover. This factor should be added to the complete analysis.

(E) Other Items

The following items will represent further economic increases due to the 80 dB(A) regulation but, due to time constraints, were not analyzed by IH.

- (a) Increased Operational Costs due to the lost revenue effect of vehicle weight increase because of the 80 dB(A) abatement components.
- (b) Lost performance costs due to engine back pressure and air restriction increases.

2. GVW Classifications

In reference to the vehicle classification differences between the EPA Background Document and the IH submissions, the following information is provided. This data classifies US Industry Retail Sales projection in a GVW category for the years 1982, 1983, and 1984.

Calendar Year
U.S. Industry Retail Sales Projections (000)

<u>Classification</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
GVW Class 8			
Heavy	145.9	166.2	184.7
Med XB Gas	3.0	2.8	2.3
MRD	<u>15.1</u>	<u>18.8</u>	<u>22.3</u>
Total	164.0	187.8	209.3
GVW Class 7			
Med XB Gas	26.6	24.9	20.3
MRD	<u>53.8</u>	<u>66.8</u>	<u>79.1</u>
Total	80.4	91.7	99.4
GVW Class 5,6			
Med XB Gas	29.5	27.7	22.6
MRD	<u>6.8</u>	<u>8.5</u>	<u>10.0</u>
Total	36.3	36.2	32.6

Key

MED = Medium Duty
XB = Except Bus
MRD = Mid Range Diesel

The above data excludes buses as noted. The previous data as described in our December 18 meeting did include buses based on the scenario that many of the items released for production in the base truck models would also be included in the bus packages. The above data is a calendar year analysis; whereas, the previously presented data was based on our corporate fiscal year.

3. Component Cost Breakdown

The following analysis represents an approximate breakdown of the various components of the IH cost per unit values presented in our October 8, 1980 submission.

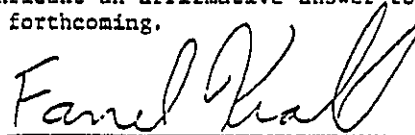
Percentage Analysis
83 dB(A) to 80 dB(A)
10 Typical Vehicle Scenario

	<u>Med. Duty</u> <u>Gas</u>	<u>Med. Duty</u> <u>Diesel</u>	<u>Heavy Duty</u> <u>Diesel</u>
Reported Cost/Unit	\$120	\$360	\$515
Cost Component:			
(a) Engine	---	21%	8%
(b) Fan Clutch	64%	---	4%
(c) Sump Covers	---	17%	29%
(d) Exhaust	11%	9%	13%
(e) Shielding	25%	38%	15%
(f) Transmissions	---	15%	31%
Total	100%	100%	100%

4. Deadlines

As noted in our December 18th meeting, the next critical commitment date is February 1st 1980. After February 1, tooling commitments will be made to our suppliers to ensure adequate lead time for production. If an affirmative decision is made prior to February 1, 1980 to withdraw the 1982 80 dB(A) regulation, the deferred costs to International Harvester are estimated to be \$6,520,000. These costs include tooling expenditures, engineering costs, manufacturing start up expenses and obsolescence factors for both the Truck and Engine Divisions of International Harvester. In addition, an affirmative response to our petition will avoid significant consumer cost increases in an already severely overburdened economy.

We believe the above information, that was presented in our combined staff meeting of December 18, has effectively answered your questions relative to our second submission. We thank you for the opportunity to meet with your staff and are confident an affirmative answer to our petition will be expeditiously forthcoming.



F. L. Krall
Manager, Technical Legislation
International Harvester Company
(219/4616623)

hr

cc: Henry Thomas, EPA

Attachment

What is the industry's financial condition?

CONTINUED FINANCIAL AND BUSINESS DECLINES FOR ICC REGULATED MOTOR CARRIERS OF PROPERTY IN 1982 PRODUCE WORST YEAR IN HISTORY

The motor carrier industry in 1982 suffered its worst financial results in history, seeing its composite operating ratio (operating expenses as a percent of gross revenues) rise to 98.29 and its income after tax margin fall to one-half of one percent (50 cents per \$100.00 of revenues). The 1982 results reflect a trend in deteriorated earnings and financial health that has been unending since 1977, and the present dismal results eclipse those of 1960, the previous low point in industry earnings.

With declines experienced in all quarters of 1982 from the comparable quarters of 1981, the 1982 results show a significantly deteriorated industry position. Based on 497 Class I and II carrier submissions to the ICC, tonnage of 292.88 million in 1982 was off 10.79 percent from 328.30 million tons in 1981. Vehicle miles declined 7.17 percent to 9.19 billion from 9.90 billion miles.

Revenues for the 497 carriers totalled \$19.34 billion, a decline of 5.76 percent from \$20.52 billion in 1981. Expenses declined to \$19.01 billion from \$19.78 billion. Since the expense decline of 3.88 percent was less than the revenue slippage, net carrier operating income fell -- to \$329.84 million from \$745.64 million, or by 55.76 percent. Ordinary income before taxes fell by 64.84 percent to \$227.11 million from \$646.22 million. With income taxes taking over 57 percent of these earnings, ordinary income after taxes was \$97.56 million in 1982, 75 percent lower than the 1981 earnings of \$393.83 million. The full year

(over)

1982 operating ratio was 98.29, compared to 96.37 in 1981, and the profit margin was 0.50 percent (50 cents for every \$100.00 of revenues) compared to 1.92 percent in 1981.

For the year as a whole, 40 percent of the individual carriers had operating ratios of 100 or above, indicating operating losses. Based on final net, almost 43 percent of the carriers ended 1982 with a net loss. In the fourth quarter of 1982 specifically, 59 percent of all carriers experienced losses in operating their trucking business. This is in addition to the 300 major carriers (employing 55,800) which have gone out of business altogether, are in Chapter 11 bankruptcy or have reduced or altered service since July of 1980.

Of the top 100 carriers by revenue, 45 had net losses in 1982. The profit margin of these firms was 0.42 percent and their return on equity was 2.19 percent in 1982 compared to 11.10 percent in 1981.

April 1983

American Trucking Associations, Inc.

Last year, the trucking industry's profits disappeared. Some of the big guys are still making money, but many carriers are veering toward bankruptcy—or are already in the ditch. Is there a trucking shortage down the road?

TRUCKERS ON THE SKIDS

BY BRIAN S. MOSKAL

The nation's trucking industry is up to its axles in trouble.

Although passage last year of the Surface Transportation Act of 1982 focused attention on a long-term transportation challenge—rebuilding bridges, highways, and other elements of the decaying U. S. infrastructure—the over-the-highway freight haulers are more concerned with an immediate problem: survival.

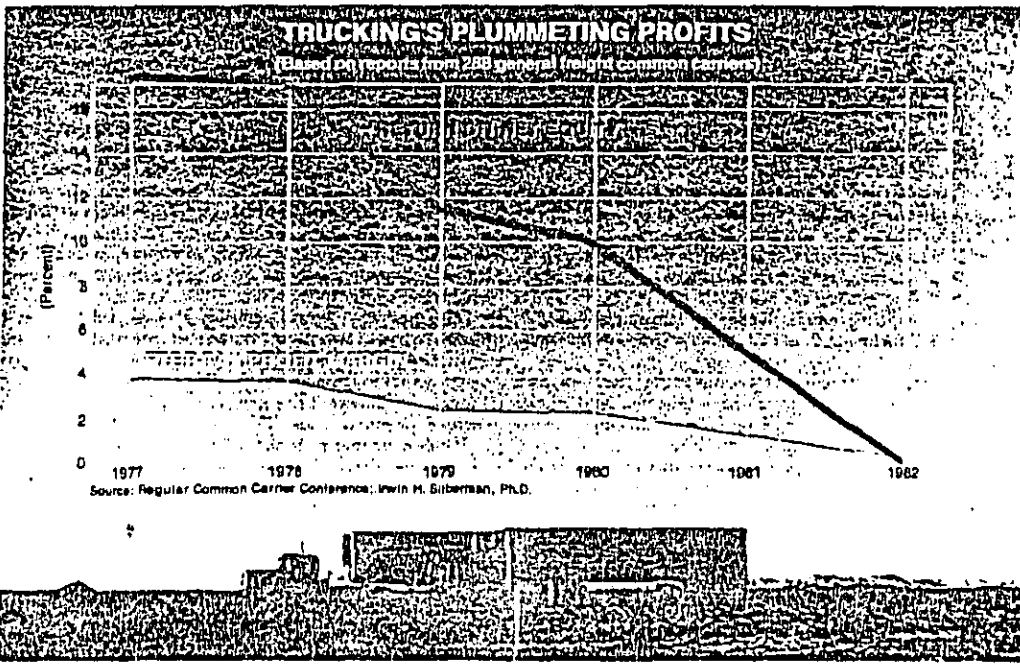
The advent of a more competitive deregulated market and the agonies of a four-year recession have clamped the trucking industry in the jaws of a high-fixed-cost/excess-capacity vise. Between January 1979 and November 1982 a total of 63 general-freight motor carriers went out of business—nearly one-fourth of the 288 firms included in the national trucking industry data base developed by Arthur Andersen & Co. Even big names like Wilson Freight Co., Spector Red Ball, Hemingway Transport, and—most

recently—Gordon Transports Inc. have wound up in Chapter 11 bankruptcy proceedings.

Excess capacity began to develop when the Motor Carrier Act of 1980 enabled trucking firms to use their equipment more efficiently. And the recession idled even more tractor-trailers as traffic levels dropped 30% below the 1979 peak.

The result has been some heavy price-cutting. Shippers now enjoy better and more-individualized service at rates no higher than they were paying two years ago. But analysts warn that this won't last. When the current shakeout is over—some think it will continue another two years—rates will begin to shoot upward.

Shrinking returns. The recession that began in 1979 was accompanied by a series of Interstate Commerce Commission administrative rulings that increased competition while holding down rate increases—an apparent attempt to force the trucking industry to embrace deregulation. The policy had two effects. First, it made managing a



Photo/Bar Campbell/Picture Group; Chart/John Sauer

POOR COPY



J. Harwood Cochrane

**"If the economy comes back strong
... there won't be enough trucks to
handle the freight"**

trucking company more difficult—putting a premium on the quality of individual managements. Second, it greatly reduced the trucking industry's profitability.

Prior to 1978 the average return on equity for the industry was about 17%. But, since then, trucking profits have virtually disappeared. A study commissioned by the Regular Common Carrier Conference of the American Trucking Assns.—and released earlier this year—found that:

- 1982 was the fourth successive year of economic recession for the trucking industry, exceeding the duration of the downturns in many other sectors.
- Motor carriers' aftertax return on equity slipped to 5.0% in 1981—and to zero last year. This compares with a 13.7% return for manufacturing industry in 1981 and an estimated 9.7% last year. (A slight, almost negligible, improvement was recorded in the first quarter of this year; data indicate that the 500 largest carriers showed a combined profit of less than 1%—compared with a combined loss in the first quarter of 1982.)
- The deterioration of general-commodity-trucking earnings has affected carriers of all sizes.
- The market share of the very largest motor carriers has increased significantly in recent years. But the earnings of even these carriers are far from adequate. In fact, of the carriers ranked among the top ten as of Dec. 21, 1981, five reported operating deficits in the first nine months of 1982, and one—T.I.M.E.-D.C. Inc., Lubbock, Tex.—went bankrupt.
- Since early 1979, carriers representing 14.1% of total industry revenues have gone out of business; and studies indicate that carriers accounting for an additional 35.4% of total revenues are candidates for failure.

"Taken together, the results of the study raise important questions as to the continued viability of the motor-carrier industry," says Dr. Irwin H. Silberman, an economic and financial consultant who authored the study. "It appears that, when the economy finally recovers, the industry will have difficulty financing needed new and replacement equipment."

Capacity crunch looms. Dr. Silberman, president of Irwin H. Silberman & Associates Inc., Potomac, Md., warns that shippers may eventually have to pay a high price for

the short-run benefit of lower freight rates. "If [the current price-cutting] is destroying the carriers, what is the shipper getting?" he asks.

The facts point to a deterioration in trucking-industry capacity, Dr. Silberman and others point out. An analysis by the Bethesda, Md.-based Transportation Div. of Booz, Allen & Hamilton Inc. shows that, just to maintain constant capacity levels, the U. S. transportation sector will need capital in excess of \$56 billion (1980 dollars) each year through 1990. Of that total, for-hire trucking will require \$6.76 billion annually, while private carriage will require \$34.2 billion per year.

But investments have been falling far short of the need. And equipment acquired in better times is now underutilized or inappropriate for shifting markets. The problem, notes a Booz, Allen report, is "insufficient profits to fund equipment investments. Even under the more-secure regulated environment, the trucking industry had difficulty raising the \$30-plus billion [needed annually]."

"What we are seeing is the graying of the trucking industry's capacity," says William M. Legg, a partner and transportation specialist with Alex Brown & Sons Inc., a Baltimore investment-banking firm. "The quality of the existing capacity in terms of age and productivity has been diminished."

Shipments of truck-trailers recorded by the Truck Trailer Manufacturers Assn., Alexandria, Va., show a decline from 241,000 in 1979 to 95,000 last year. And a forecast by Alcoa sees trailer shipments rising from 100,000 this year to 170,000 in 1986, still well below the 1979 peak.

Short life. Despite a cumulative 50% increase in the cost-of-living index since 1978, the current-dollar value of the trucking industry's productive capacity has remained flat. Little new investment is being made, and depreciation is being used to reduce bank debt, rather than to replace rolling stock.

That may seem all well and good, in light of the current excess capacity. But it should be remembered that a truck doesn't last very long—normally only seven years at 100,000 miles a year of interstate use. Consequently, carriers can't live off their depreciation forever. And the idled trucks don't really represent much of a reserve, since many of them are being cannibalized for parts to keep other trucks on the road.

Coupled with short equipment life, inadequate return on investment can reduce industry capacity quickly. "If you adjust the rate of return for inflation, the industry has been running a real-dollar deficit now for more than four years," says Alex Brown's Mr. Legg. "That deficit will show up in a greatly diminished ability to replace obsolete capacity—a particularly important point because the newer equipment is both more fuel-efficient and more productive under the new size and weight laws."

(The Surface Transportation Act of 1982 permits 80,000-lb trucks and "twin" trailers on interstates and other designated roads. In addition, maximum truck width has been increased from 96 in. to 102 in. Some transportation experts estimate that the greater length and width could increase productivity by 25%.)

Hidden problem. Since 1978 the trucking industry's capacity has shrunk by nearly 30% in real-dollar terms, Mr. Legg calculates. And unless the industry's rate of return improves, more capacity will be lost through business failures and equipment obsolescence.

A capacity shortage could become evident within the next two or three years, some analysts suggest. But the problem is not yet widely apparent because today's depressed tonnage levels mask the underlying shrinkage. The current excess capacity, however, could evaporate quickly as: An improving economy boosts tonnage, ship-

pers reduce private fleets to take advantage of lower rates and more responsive service from common carriers, and consolidation continues.

Although most operators are generating a marginal return at best, a small group of carriers has been enjoying adequate-or-better profitability. (See table on Page 41.) Last year, for example, Roadway Services Inc. reported \$76 million in net income—a 6.6% return on sales. And Consolidated Freightways Inc. maintained a 4.6% margin with \$54.8 million in earnings.

Carriers with strong balance sheets and solid management teams have been picking up market share as other carriers have faltered. For example, the market share for the top ten carriers grew from 34.7% in 1976 to about 42% in 1982.

That trend is likely to continue. "Because rates won't increase quickly," says Mr. Legg, "we expect a significant number of carriers that have been 'barely holding on' to leave the business. The traffic that is gained through consolidation, combined with diversion from private carriage and additional tonnage from economic growth, will eventually put a strain on the system. We believe that the trucking industry will become capacity-constrained in the next three to four years—much as it was in 1968, 1973, and 1978."

Mixed opinions. Not all trucking-company executives agree that a serious capacity shortage is likely. But J. Harwood Cochrane, chairman of Overnite Transportation Co., Richmond, Va., is among those who think it's a possibility.

"Yes, if the economy comes back strong—say a 16% upturn in the next 16 months—there won't be enough trucks to handle the freight," Mr. Cochrane says.

However, two other trucking executives and a consultant are more sanguine. Bob Johnson, president of Transus Inc. (formerly Georgia Highway Express), Atlanta, says: "We don't feel that it's the end of the world. There is a crisis in the trucking industry, but a lot of companies did well in 1982. I personally don't see a poor transportation future for the nation. But those carriers that went into the recession with a heavy debt structure and slim profits are in trouble now."

Earl N. Hoekenga, the former chairman of Ryder Truck Lines Inc., adds: "I don't think we'll ever reach a point where we don't have enough trucking capacity. Somebody is always waiting in the wings to provide truck service." Mr. Hoekenga, who is now president of Bridgestone Inc., a transportation leasing and consulting firm in Jacksonville, Fla., points out that companies like Consolidated, Roadway, and Ryder "will find ways to expand into markets where other trucking companies are floundering."

And Fred H. Tolan, traffic counsel for the Pacific Northwest Traffic League, a group of 1,500 shippers, also downplays the potential for a trucking shortage. "Everybody has heard about it. Truckers have been talking about it since the recession and deregulation," he says. "But I don't see it. I have faith in the American free-enterprise system. Rates will go up and that will take care of the industry's capital needs. I'd put those fears on the back burner—way back on the back burner."

BANKERS GET TOUGHER

Whatever the prospects for a capacity crunch, many individual carriers certainly face a fiscal crunch. For one thing, interest costs have become burdensome. In 1976 the industry as a whole paid \$82.5 million in interest—or about one-eighth of its \$671.9 million in income that year, the Silberman study reveals. But in 1981, interest costs rose to \$207.6 million, or nearly one-half of its \$444.5 million in income.

One result is that bankers are taking a more rigorous look

at trucking firms' balance sheets than they did in the days of regulated trucking. In the past, truckers could cite their "operating rights" as an asset when seeking a loan. But those rights—certainly an intangible asset—vanished with the Motor Carrier Act of 1980.

"The trapdoor has opened underneath the trucking industry due to deregulation," says one midwest banker. "Before deregulation, we looked at a trucker's assets—not his cash flow."

Now, banks want to know if a trucker has carved out a market niche. They want to see a five-year cash-flow analysis. They want to know whether the carrier is a high-cost high-service or a low-cost low-service company. And they evaluate managerial skill in deciding whether or not to grant a trucking company a loan.

"We're trying to be more of a strategic lender to the trucking industry," another midwest banker says candidly. "We ask ourselves whether a trucking company has focused on its market strengths. You can't be a Braniff Airways and be something to everyone."

Honeymoon over? Capital formation, certainly, has become more difficult for the weaker carriers, says an East Coast bank executive. "Truckers aren't buying as many new tractor-trailer combinations as they would in healthier economic times."

Bank officials point out that if they were to stop lending to truckers, the equipment vendors might step in to prop up equipment sales. But truckers aren't particularly happy

"Companies that account for about half of the capacity in the trucking industry are in dire straits"

about that prospect, since vendors typically impose higher finance charges than do banks.

At least one midwest bank is taking a novel approach in issuing loans to trucking companies. It is insisting that the equipment supplier take 5% to 15% of the credit risk; and if the bank repossesses the equipment, the vendor must take responsibility for reselling the equipment.

"If the honeymoon is over in the trucking industry, then everybody—including the banks—must move aggressively to determine which companies will be around the longest," says one banker.

Not only have carriers found it harder to borrow money for new equipment, but also less of their internally generated cash flow has been reinvested, Dr. Silberman observes. Capital spending "declined precipitously" in 1980 and 1981, he notes, as companies diverted earnings to reduce debt incurred between 1976 and 1979. "Indeed, long-term debt declined by \$338.5 million from the end of 1979 to the end of 1981," he points out.

Outlook. Near-term, the prospects for a return to adequate profitability are scant. And that doesn't augur well for renewed capital investment.

Mr. Legg at Alex Brown believes that the industry needs a 5% to 10% return on equity, after adjustment for inflation, to be able to purchase new plant and equipment. "The trucking industry hasn't had a return that has even covered the rate of inflation since 1978," he asserts. "I think the [capacity] shortage will come before the returns come in for the truckers."

Dr. Silberman is even more pessimistic. "This industry needs a return on equity, after taxes, of 18% to 20% for five years to repair much of the damage that has occurred in the last five years," he says. "Companies that account for about half of the capacity in the trucking industry are in dire straits. It's a real question how long the industry can provide service under these circumstances."