The Downside of Motor Carrier Deregulation

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In the latter part of the 1970's decade (1978 is generally accepted as the watershed year) the Interstate Commerce Commission (ICC) began to deregulate the motor carrier industry administratively. Entry barriers were lowered considerably and decisions in the MC-297 series of proceedings curtailed the strength of the collective action of the carriers.

These changes, plus additional measures of a deregulatory nature, were codified in the Motor Carrier Act of 1980 (MCA). However, the new

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law was far from complete deregulation. The statute retained provision for significant regulation by the ICC. It may be something of a simplification to say that the ICC has elected to exercise the very minimum amount of regulation authorized. In fact, the argument can be made (and has been made) that the ICC has actually failed to regulate to the degree contemplated and required by MCA. In any event, that argument will not be pursued here. What is intended is to examine some of the effects of the lessened regulation, inaccurately but conveniently referred to generally as deregulation.

It is difficult to pinpoint the motivation of the deregulators. For some it appears to be entirely ideological: "free enterprise" is a goal that must not be questioned, must not be compromised, must not be restricted. For others it is merely greedy exploitation of power: the super shipper who can command concessions greater than average. For others it is a smattering of both plus the regrettable philosophy that cheaper is better and the mistaken belief that regulation necessarily means higher prices.

To the first group it can only be hoped that they will pause to reflect that extremes are never good answers and that text book models and real world conditions are not the same. To the second group it must be said that if their world is entirely short run they may be serving themselves well but if they have any interest in long term consequences the facts which follow should be noted. Perhaps the best response to the last group comes from Dr. W. Edwards Deming, arguably the most respected management consultant in the world today, certainly recognized as the man most responsible for rebuilding industry in post-war Japan. Dr. Deming has said, "The policy of forever trying to drive down the price of anything purchased with no regard for quality and service, can drive good vendors and good service out of business."[1]

TRUCKING IS UNIQUE

To begin with, it must be recognized that, absent the restraining hand of government intervention, the trucking industry is uniquely constituted to spiral itself into self-destruction. Trucking is different because, first of all, it is a service industry with a perishable product: capacity available today cannot be inventoried and sold tomorrow. Of course, this is true of many service industries but there are other differences which, taken together, set trucking aside. One such difference is the high proportion of joint costs. At a minimum, the prevalence of joint costs makes cost analysis difficult and susceptible to subjective pricing influences; at worst, joint

1. W. EDWARDS DEMING, QUALITY, PRODUCTIVITY AND COMPETITIVE POSITION 23, (Massachusetts Institute of Technology, Center for Advanced Engineering Study 1982).

costs are irresistibly easy to ignore completely when calculating the cost of handling traffic for which there is strong competition.

Further, few service industries engage in the high-pressure sales competition prevalent in trucking. Truckers don't wait for the phone to ring or for a customer to walk in the door: the waiting room of the traffic manager of every major shipper is always full of trucking salesmen anxiously soliciting business. One reason for the sales frenzy is the need to prevent or minimize unused capacity. This is not to be confused with "excess capacity" in the sense normally used by economists. Such excess capacity as did exist (a product of the flight of TL traffic) in the early 80's was eliminated by the spate of bankruptcies the LTL industry has since suffered. On the other hand, unused capacity is a natural, chronic problem of the LTL general trucking industry which is characterized by peaks and valleys. Carriers must be prepared to handle the peaks or risk the enmity of shippers. Consequently, during the valleys, there are equipment, facilities and employees waiting to be used.

SAFETY

A simple measure of safety performance before and after changes in regulation is not available for several reasons. First of all the statistics are not there. Where accident records are kept miles travelled are not, plus there are major problems in under-reporting accidents. In addition, the criteria for what constitutes a reportable accident have been changed, thus making trend analysis impossible. Finally, safety programs at both the federal and state level have been stepped up greatly during the period since 1980, making it impossible to isolate the separate and opposite effects of deregulation and increased safety programs.

However, it is logical to assume that if deteriorating financial health has been experienced, short cuts around safety will follow — whether at the firm level or at the individual level. That is to say, if squeezed for profit, the company will find the temptation to defer maintenance irresistible. Similarly, a driver whose pay rate per hour or per mile is reduced will be sorely tempted to offset the cut by working more hours per day or driving more miles per hour.

This is not an idle or particularly personal supposition. One of the most ardent deregulators in the land, Thomas Gale Moore, lately of the President's Council of Economic Advisors, a Senior Fellow at the Hoover Institute, Stanford, an adjunct at the American Enterprise Institute, etc., etc., has stated ". . . theory suggests that safety might be lower in a competitive market . . ." and then adds ". . . regulation may provide incentives

for above-optimal levels of safety."[2] The same thought was echoed by Stiglitz and Arnott ". . .it should not be assumed *a priori* that the current level of transport accidents is too high."[3] What these economists are saying is that everything has a price and you elect to pay for just so much safety; perhaps we don't want to pay for more safety. Regrettably, those who make the payment and choose how much safety they are willing to pay for are not trading for their own safety. It is the safety of third parties, not parties to the rate-safety negotiation, whose safety is being traded.

The Office of Technology Assessment, reporting to Congress on its study of the trucking industry made an observation in the same vein:

> In fleets having financial difficulties, vehicles are not as well maintained and equipment tends to be older. . . . Overcapacity leads to price discounting and shrunken profit margins, creating difficult economic trade-offs for decisions about investment and safety-related equipment and safety-conscious hiring and scheduling practices. Competition, increased operating costs and low, erratic profit margins create a need to control costs that can lead to shortchanging safety-related driver training, truck maintenance and equipment improvements. Carriers are, in general, interested in safety but they will measure investments in new safety equipment and technologies against tangible economic reward. Cost and safety trade-offs are particularly problematic for owner-operators and small carriers, who have to generate revenue regularly to stay in business and they have no regular operations base or maintenance facility. . . . To compete successfully as individual entrepreneurs, owner-operators must drive long hours and accept TL backhauls at low rates, circumstances that create physical, psychological and economic hardships.[4]

Glaskowsky recognized the same link in his study of the effects of deregulation, commissioned by the Eno Foundation:

> Many aspects of deregulation are subject to disagreement and debate as to their effects, but safety is not one of them. Safety costs money where transportation operations are concerned and it was inevitable that deregulation would put much financial pressure on a many [sic] motor carriers. Corners are being cut by financially strapped carriers and the accident rate is rising. This was a clearly foreseeable consequence of deregulation. Failure to take it into account and head it off by appropriate action is no credit to the deregulators.[5]

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2. Thomas Gale Moore, Deregulation and Safety, Transportation Deregulation and Safety Conference, Northwestern University (June 22 - 25, 1987) (on file with author).

3. J. E. Stiglitz and R. J. Arnott, Safety, User Fees and Public Infrastructure, Transportation Deregulation and Safety Conference, Northwestern University (June 22 - 25, 1987) (on file with author) .

4. U. S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, GEARING UP FOR SAFETY: MOTOR CARRIER SAFETY IN A COMPETITIVE ENVIRONMENT.

5. Nicholas Glaskowsky, *Safety and Equipment Aging, in* EFFECTS OF DEREGULATION ON MOTOR CARRIERS (Eno Foundation for Transportation, Inc., 1986).

The relationship, obvious to the informed, was validated in a study by Chow where it was found that:

> the financial condition of the carrier does make a difference. The carrier which eventually goes bankrupt spends less on safety and maintenance, has older equipment and depends on owner operators more than carriers not going bankrupt. As these financially distressed carriers approach their eventual demise, they spend even less on safety, on new equipment and more on subcontracted linehaul.[6]

In 1991, the Government Accounting Office (GAO) released its report FREIGHT TRUCKING: PROMISING APPROACH FOR PREDICTING CARRIERS' SAFETY RISKS.[7] This report also validates the relationship between financial distress and safety deterioration in unequivocal terms. The report was a response to a request by the Chairman of the House Committee on Public Works and Transportation, to determine if certain economic and other conditions could be used as predictors of safety outcomes.

In approaching the study, the GAO asked the question, "[h]ave the economic pressures on trucking firms led to practices that endanger public safety?" The study was designed to test the hypothesis:

> that a decline in economic performance among motor carriers will lead to declining safety performance in one or more ways, described by five submodels: (1) a lowering of the average quality of driver performance, (2) downward wage pressures encouraging noncompliance by drivers with safety regulations, (3) less management emphasis on safety practices, (4) deferred truck maintenance and replacement, and/or (5) introduction of larger, heavier, multitrailer trucks.[8]

With regard to driver quality, the study hypothesized:

> if economic conditions in the trucking industry deteriorated, then carriers' restricted financial resources would place a downward pressure on wages and lessen job security through carriers' reducing their number of employees or exiting the industry. In turn, if lower wages and less job security made working in the industry less attractive, then the industry would be less able to retain and attract high quality drivers.[9]

As with most studies of this sort, the final analysis made strong positive findings on some points, found weak support for others and was inconclusive on others. On three points, the GAO had no trouble making firm statements:

> (1) [t]hree measures of profitability — return on equity, operating ratio, and net profit margin — were associated with subsequent safety problems as measured by accident rates.

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6. Garland Chow, Deregulation, Financial Condition and Safety in the General Freight Trucking Industry, Transportation Deregulation and Safety Conference, Northwestern University, (June 22 - 25, 1987) (on file with author).

7. GAO/PEMD-91-13 (April 1991).

8. *Id.* at 2.

9. *Id.* at 50.

(2) Firms in the weakest financial position had the highest subsequent accident rates.

(3) [d]river's age, years of experience, and compensation were all good predictors of safety problems." For company drivers, "lower paid drivers were more likely than their higher paid counterparts to violate safety regulations.[10]

In all candor, it must be conceded that the Department of Transportation, under Administration mandate to foster and promote deregulation at every opportunity, did not concur in the GAO findings. DOT argued that "GAO's findings were not strong enough to warrant either the conclusion contained in the title of the report or the recommendations and inferences contained in the executive summary."[11]

CARRIER FINANCIAL DETERIORATION

If, then, financial distress impacts negatively on safety as well as the carriers' ability to survive and serve, what evidence is there that deregulation adversely affects the financial condition of the carriers? In a word, plenty!

Table I chronicles the deterioration of the profitability of general freight carriers in terms of the three most common measurements of carrier profitability.[12]

ROE, return on equity, is after-tax income divided by the net of stockholders' and proprietors' equity less intangible property, signifying the return to owners of the value of their holdings. Note that from 1976 through 1979 ROE averaged 14.85; from 1980 through 1992 it averaged 8.91. The ICC decided in docket 29772 in 1979 that a fair measure of a reasonable ROE for the motor carrier industry would be that obtained by All-Manufacturing. ROE for All-Manufacturing averaged 14.89 for the 1976 to 1979 period (virtually identical to that of the motor carriers) and dropped to a 10.88 average for the period 1980 to 1992. For the two periods, trucking dropped 40% while All-Manufacturing dropped only 27%.[13]

ROI, return on investment, is before-tax income divided by the sum of working capital and net carrier operating property, signifying the return on the value of the investment. In that same docket 29772, the ICC decided that a reasonable ROI for the motor carriers would be 21. Note that the carriers averaged 20.18 from 1976 to 1979, whereas the average was 13.35 for the years 1980 to 1992.

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10. *Id.*

11. *Id.* at 83.

12. American Trucking Associations, *Motor Carrier Annual Report, Class I and II Carriers, Financial & Operating Statistics, Total General Freight Carriers* (1976-1992).

13. BUREAU OF THE CENSUS, QUARTERLY FINANCIAL REPORT.

TABLE I

Year	ROE (%)	ROI (%)	Op. Ratio (%)
1976	15.04	20.25	95.14
1977	17.19	24.55	94.45
1978	15.84	22.17	94.52
1979	11.34	13.76	96.52
1980	9.03	13.48	96.63
1981	6.80	10.93	97.31
1982	1.89	5.51	98.54
1983	11.44	17.08	95.67
1984	9.46	15.34	96.09
1985	7.43	13.73	96.35
1986	13.19	19.37	94.63
1987	5.49	10.47	97.04
1988	15.23	15.50	95.51
1989	8.26	11.92	96.32
1990	8.99	13.20	96.06
1991	7.55	11.81	96.76
1992	11.15	15.26	95.93

In 1964 the ICC declared that 93.0 was a reasonable operating ratio for the industry. Table I shows that for the years 1976 to 1979 the average operating ratio was 95.16 which rose to 96.37 for the next 10 years, a 25% deterioration in operating margin.

It is clear that regardless of which of the three measurements is used, the carriers were distinctly more profitable prior to the Motor Carrier Act of 1980, or, more to the point, before the ICC administratively loosened regulation drastically. In this regard, note that there was nothing about the pre-1980 period which could properly be called excessive profitibility. Therefore, the subsequent deterioration in profitibility was from a level which was already inadequate. Furthermore, the deterioration in profitability becomes more startling when it is realized that the carriers comprising the group in the late years are the survivors; the weakest carriers had been eliminated which should have improved the earnings indicators.

A sadder statistic to contemplate is the business failure rate. Table II shows the trend in trucking industry failures and the rate per ten thousand concerns as well as the comparison of that rate to that of All-Industry.

TABLE II

Year	Trucking Failures Number	Trucking Failures Rate	All-Industry Failure Rate	Ratio Trucking Rate to All Ind.
1978	162	24.2	24	1.01
1979	186	27.2	28	.97
1980	382	52.9	42	1.26
1981	610	81.2	61	1.33
1982	960	121.3	88	1.38
1983	1228	147.5	110	1.34
1984	1411	180.7	107	1.69
1985	1541	191.1	115	1.66
1986	1561	183.6	120	1.53
1987	1345	151.5	102	1.49
1988	1242	141.8	98	1.45
1989	1263	117.6	65	1.81
1990	1593	137.9	76	1.83
1991	2323	178.3	107	1.67
1992	2259P	173.4P	126P	1.38P

P = Preliminary

Note that in the closing days of pre-1980 regulation the failure rate of the trucking industry was virtually identical to that of all industry, but as deregulation took its toll, through the decade of the 80's, the failure rate of trucking relative to all industry grew dramatically and continues so. Preliminary data for 1992 suggests the distortion is abating but at best it has hardly given cause for complacency. This is the inevitable consequence of the financial deterioration of the industry seen in Table I.

It was stated in the quoted comments that financial distress would impact the condition of the equipment operated by the carriers. A good measure of that characteristic can be found in the data maintained by the Motor Vehicle Manufacturers Association pertaining to the age of trucks. This is shown in Table III.

TABLE III
AGE OF TRUCKS
(numbers of trucks in millions)

Year	Age All Trucks	Number 12 Years and Older	Number of Trucks All ages	Ratio 12 Year Olds to Total*
1970	7.3	3.9	17.7	100
1971	7.3	4.0	18.3	99
1972	7.2	4.0	19.7	92
1973	7.0	4.0	21.3	85
1974	7.0	4.1	23.3	81
1975	6.9	4.4	24.8	80
1976	7.0	4.8	26.5	82
1977	6.9	5.1	28.2	82
1978	6.9	5.5	30.5	82
1979	6.9	5.9	32.6	82
1980	7.1	6.5	35.2	84
1981	7.5	7.2	36.1	90
1982	7.8	7.9	37.0	97
1983	8.1	8.5	38.1	101
1984	8.2	9.6	40.1	109
1985	8.1	10.7	42.4	115
1986	8.0	11.5	44.8	117
1987	8.0	11.8	47.3	113
1988	7.9	12.6	50.2	114
1989	7.9	14.0	53.2	119
1990	8.0	15.5	56.0	126
1991	8.1	17.0	58.2	133
1992	8.4	18.3	61.2	136

* Indexed (1970 = 100)
Source: Motor Vehicle Manufacturers Association: *Facts & Figures*

These figures show that the average age of trucks in use was climbing steadily through the early 80's, whereas it had been dropping through the 70's, and has resumed its climb currently. The same must be said, even more emphatically, about the trucks 12 years old and older. Measured another way, the proportion of the nation's fleet of trucks 12 years old or older which was dropping through the 70's has been climbing since the watershed of 1980 — the 1992 ratio was *170%* higher than the trough in 1975!

DRIVER LOSSES

It was stated earlier that the drivers have been impacted by the competitive frenzy just as the carriers have or perhaps it would be more to the point to say that the pressure on the carriers is in part passed on to the

drivers. In any event, evidence of what linehaul drivers have experienced under deregulation is found in Interstate Commerce Commission data published in *Transport Statistics in the United States* shown below in Table IV. The data are for Class I common carriers of general freight engaged in intercity service.

TABLE IV
WAGES OF DRIVERS PAID BY THE MILE

	Unadjusted		Inflation Adjusted	
Year	Avg Wages Per Mile	Avg Wages Per Year	Index of Avg Wages Per Mile	Index of Avg Wages Per Year
1978	0.27	24,608	100	100
1979	0.33	26,455	110	97
1980	0.36	30,072	106	97
1981	0.36	33,349	96	97
1982	0.37	33,565	93	92
1983	0.39	34,244	95	91
1984	0.36	34,055	84	87
1985	0.36	33,194	81	82
1986	0.34	34,286	75	83
1987	0.35	35,235	74	82
1988	0.37	38,101	76	85
1989	0.36	37,336	70	80
1990	0.38	40,559	70	82
1991	0.37	40,399	66	79

It will be seen that wages per mile (unadjusted for inflation) increased through 1980 and then hit a plateau. Since 1980, the level is virtually unchanged. At the same time, annual income increased at about the same pace through 1980 but continued a moderate increase thereafter, indicating an attempt to deal with inflation by working more hours — or more miles. The true plight of these workers can only be seen in inflation adjusted data which are found in the last two columns of the table (deflated by the CPI). The pay rate (wages per mile) has dropped 40% in constant dollars since the peak in 1979! Is it any wonder that there is concern about a driver shortage? To make matters worse, it is, logically, the best drivers who will leave first. While wage rates were dropping 40%, income per year was dropping 19%. This tells us that the effort to offset the plunging wage rate by driving faster and/or longer was only partially effective and still left them with a significantly lower standard of living. And as the GAO report found, safety inevitably suffers.

What does all this do to the carriers' operations: this lower return, this threat of bankruptcy, this older equipment, these under-paid drivers? The

answer can be found in the productivity trends shown in Table V where trucking productivity from 1970 through 1990 is shown and is compared to that of the railroad industry for the same period.

TABLE V
PRODUCTIVITY IN TRUCKING AND RAILROADS

Year	(1)	(2)	(3)	(4)	(5)	(6)
1970	412	999	84.6	771	634	72.9
1971	445	995	91.9	746	599	74.7
1972	470	1039	92.9	783	575	81.7
1973	505	1096	94.7	858	572	90.0
1974	495	1097	92.7	852	590	86.6
1975	454	1024	91.1	759	548	83.1
1976	510	1064	98.5	800	538	89.2
1977	555	1132	100.7	834	545	92.8
1978	599	1206	102.0	868	539	96.6
1979	608	1249	100.0	927	556	100.0
1980	555	1182	96.5	932	532	105.1
1981	527	1168	92.7	924	495	112.0
1982	520	1119	95.5	810	429	113.3
1983	575	1132	104.3	841	376	134.2
1984	606	1220	102.0	935	376	149.2
1985	610	1266	99.0	895	359	149.5
1986	632	1290	100.6	889	332	160.6
1987	663	1358	100.3	972	309	188.7
1988	700	1433	100.3	1028	298	206.9
1989	716	1477	99.6	1048	293	214.5
1990	735	1503	100.5	1071	279	230.2
1991	758	1482	105.1	1077	262	246.6
1992	815P	1481	113.0	1107P	254	261.4

P = Preliminary
(1) Billions of Ton-Miles, Trucking
(2) Employment, Thousands, Trucking
(3) Productivity, Trucking = (1)/(2) indexed to 1979 = 100
(4) Billions of Ton-Miles, Railroads
(5) Employment, Thousands, Railroads
(6) Productivity, Railroads = (4)/(5) indexed to 1979 = 100
Sources: Employment: BLS — Employment and Earnings Ton-Miles: TRANSPORTATION IN AMERICA, Eno Foundation

The first thing that emerges from Table V is the fact that the solution for one industry's problems may not be the solution for another industry's problems. Productivity in the railroad industry which was positive during the 70's took off like a sky rocket after deregulation. On the other hand, trucking productivity which was experiencing modest improvements in the 70's, turned absolutely flat after 1980.

It is important to consider the reasons for the dramatic improvement

in rail productivity. It is safe to say that in the mind of any student of transportation the principal explanation is reduction in service. With release from the requirement to justify abandonment of branch lines, the rails eliminated branch lines with a frenzy, leaving small shippers, particularly in remote areas, high and dry.

The situation is much akin to that in the bus industry. For sixty years or more, the bus linked rural America with the rest of the country. No matter how remote your home, the bus made it possible to visit friends and relatives, to get to doctor's offices, to get to a college or the new job and to get back home for a visit.

But the great freedom of deregulation was granted to the rails and to the bus industry. In the exhilarating new world of opportunity, every service that was not completely self supporting was dropped. Bus service, as rural America knew it, is dead. The rails have fared well as have some of their customers, notable exceptions being shippers of coal and the small shippers on now-abandoned branch lines.

To the urban business traveler, loss of the busses went unnoticed, but the small town resident is deserted. To the major corporation, rail service is still there, but to the minor corporation it's a different story.

THE COST BASIS OF RATES

Contrary to the assurances of the advocates of deregulation ten years ago, ratemaking has trended *away* from a cost basis since 1980. Not that costs are completely disregarded in making rates today, but there is far less conformity to cost as a direct basis. Other considerations weigh far more heavily than they ever did prior to 1980. This trend is the direct result of the ICC adoption of a free market policy on rate regulation.

In the pre-1980 era, the standard, the point of reference for all rates, was the class rate structure. This structure was designed to recognize precisely three elements: classification rating, weight of shipment and distance. The general rate level was based on industry operating costs and revenue need considerations.

The first element, classification rating, was dominated first by consideration of density and second by other transportation related characteristics, in order to reflect differences in the handling of commodities. Value of service at one time was a factor in classification, but when it was eliminated from consideration by edict, there was no observed change in class ratings or published rates; the fact is, it had been disappearing from consideration for years.

The element of shipment weight was implemented in discrete increments and was for the sole purpose of recognizing differences in cost of handling.

The third element, distance, also was solely a cost factor.

If there were imperfections in the class rate structure as a measure of cost differences, as no doubt there were, they were attributable to the problems of trying to keep a pricing structure timely in response to changing products and product make-up. There was no motivation other than to reflect costs, nor any reason for there to be one.

Special situations arose involving both specific shipment cost matters and elasticity of demand. These were handled by exceptions to the classification for the transportation of commodities over wide geographic areas, or point-to-point commodity rates for more specific movements. In either case, cost was always considered together with marketing justification. The basic criterion for cost was that direct expenses must be covered plus some contribution to indirect expense.

The class rate structure is still in place and still governed by the same three criteria. It is still a cost based instrument. Exception ratings and commodity rates are also still in existence but, by and large, their roles have been replaced by discounting. Discounting, as observed today, differs from the use of exception ratings and commodity rates, in several ways — probably the most significant is that during the past ten years, ICC practice has been that discounts haven't had to be cost justified and consequently have not been cost related.

WHY DISCOUNTS CAN BECOME EXCESSIVE

The advocates of deregulation assured all that carriers would not price below cost, that whatever anomalies might develop in the short run, while carriers adjusted to the market place, normalcy would return as excess capacity was worked off. Eleven years have elapsed since the Motor Carrier Act of 1980 and the financial condition of the industry survivors, the stronger carriers, is worse than that of the industry before the weaker carriers were eliminated. As predicted, carriers have failed, but in numbers far exceeding expectations and the result is a weaker not a stronger industry.

THE CONSEQUENCES OF EXCESSIVE DISCOUNTING

There are two serious dangers attendant to differential pricing in general which are brought to fruition by excessive discounting. The first is the matter of equity among shippers. There is no disputing that differential pricing can be beneficial to all parties, but there are conditions. As one of the early sages of transportation, D. Philip Locklin, once said:

> If the distinction between constant and variable expenses has been fully grasped it will be apparent that preferential rates relieve rather than increase the burden on other traffic if two conditions are fulfilled. These are that the

> rate must more than cover the direct costs; and that the traffic will not move at higher rates. When these conditions are fulfilled preferential rates are of benefit to all concerned.[14]

Dr. Locklin's points are essential to equity among shippers. There is no error in unequal distribution of the overhead burden among shippers *provided* that the shipper enjoying the "preferential" rate pays not only the direct costs but also *all* of the indirect costs it can afford. Needless to say, if the preferred shipper is not even paying the direct costs, the inequity is completely out of hand.

The other danger is proliferation of the excessive discounts. When the "preferred" shippers begin to multiply, there may not be enough "non-preferred" shippers left to cover the indirect costs. *Indirect costs must be recovered in full from someone and there is no source other than shippers*. When the complete recovery of all costs fails, the matter of inequity among shippers is exacerbated by foundering carriers.

THE EVIDENCE OF EXCESSIVE DISCOUNTING

It is generally accepted that ideal rate making will bear some relationship to the cost of providing the service. This is usually interpreted to mean that any difference in rates must be justified by corresponding differences in cost, absent special circumstances.

Differences in cost can result from many factors. The shipping platform may contain too few bays for the quantity of freight moving — this would cause delay for the carrier. The shipper may be in a congested downtown location — more delay. The general attitude of the shipper's dock personnel — uncooperative — can spell delay. Conversely, adequate shipping facilities, convenient location and more productive personnel mean cost savings to the carrier.

Other cost factors concern the carrier's operating situation. Chronic empty back haul, as a prime example, introduces a new cost algorithm.

Setting those special conditions aside, it is important to the present inquiry to examine potential cost differences which may be due solely to volume, in terms of number of shipments, tendered to a carrier at one time. "Multiple tender", as it is known, is the most prevalent basis cited for rate discounts or reductions.

To fully understand the opportunities for such cost savings, it is necessary to review what happens, physically, to a shipment moving in motor carrier transportation. The handling of a shipment involves a series of necessary steps:

Pickup:

1. Pickup truck moves to pickup area, i. e., the first stop. (stem time).

14. D. PHILIP LOCKLIN, ECONOMICS OF TRANSPORTATION 161 (1938).

2. Truck is backed up to the dock; driver presents himself to the dock foreman. (contact time).

3. Driver is given Shipping Orders (copies of Bills of Lading) and presented with freight. Loading commences. (loading time).

4. Driver signs Bills of Lading. (this with handling of Shipping Orders in step 3 is shipment-constant time).

5. Driver pulls away from dock and drives to next stop. (variable running time).

6. Driver completes pickups/deliveries and returns to terminal. (stem time).

Platform Handling:

Pickup truck is unloaded, each shipment being taken to a linehaul trailer at another door which is being loaded for a specific terminal. The shipment is loaded on that trailer. This is often one continuous movement via forklift or dolly. When there is not a trailer available for the destination terminal, the shipment is temporarily set on the floor of the dock until a trailer is made ready.

Linehaul:

Linehaul driver is assigned to the waiting tractor-trailer and dispatched to the destination terminal or to a relay terminal. At the relay terminal another linehaul driver is similarly dispatched with the same rig to the destination terminal or to another relay terminal. The relay terminal may also be a "breakbulk terminal" for less than truckload freight, where the freight on the incoming trailer is unloaded and reloaded on other outbound trailers just as the pickup truck was unloaded at the origin terminal.

Platform Handling:

Trailer is unloaded, each shipment being taken to a delivery truck at another door which is being loaded for a specific section in the terminal area. The shipment is loaded on that truck. This is often one continuous movement via forklift or dolly. When there is not a truck available for the destination section of the delivery terminal area, the shipment is temporarily set on the floor of the dock until a truck is made ready.

Delivery:

1. Delivery truck moves to delivery area, i. e., the first stop. (stem time).

2. Truck is backed up to the dock of the consignee; driver presents himself to the dock foreman. (contact time).

3. Driver presents Delivery Receipts for the receiver to check freight and commences to unload. (unloading time).

4. Driver gets signature on Delivery Receipts. (this with handling of papers in step 3 is shipment-constant time).

5. Driver pulls away from dock and drives to next stop. (variable running time).

6. Driver completes pickups/deliveries and returns to terminal. (stem time).

Billing and Collecting:

Rate clerks rate and extend the charges on the bills of lading. Clerks prepare freight bills and trip manifests. Clerks prepare and mail statements.

To repeat, this discussion will focus on those activities which are affected by tenders of large numbers of shipments to a carrier simultaneously as opposed to the tender of just one shipment at a time. Size of shipment is not at issue; rate schedules are designed to recognize the economies of handling a large shipment as opposed to a small shipment and such economies are equally available to the large shipper and the small shipper. Likewise, the difference in cost of handling two different commodities is not at issue; classification, except where it is negated by freight-all-kinds (FAK) rates, takes care of those differences and applies equally to all shippers.

What then are the elements of service which can be eliminated by tendering a large number of shipments as opposed to the same shipments being tendered one at a time by a multitude of shippers? Linehaul is obviously not a candidate. It is a matter of complete indifference in the linehaul operation whether the trailer is loaded with shipments from one shipper or a hundred shippers. The same can be said of the Platform Handling. When the pickup truck is being unloaded at the terminal, the operation is exactly the same for each shipment; it matters not at all whether successive shipments are from the same shipper or different shippers.

On Billing and Collecting, the rate clerk's job is essentially the same in either case, though it may be argued that multiple shipments from one shipper coming to him in a batch will probably save some time because of the repetition. The clerk who prepares the freight bills and manifests will probably save nothing. There will be some saving in postage, if nothing else, in sending a statement to one shipper for many shipments than to a multitude of shippers for one shipment each. It is probably stretching things a bit but to be generous let's say the per-unit billing and collecting cost can be cut in half.

Pickup and Delivery holds the greatest promise for savings. The pickup and delivery service can be broken down into the following elements of activity:

1. Stem time (between terminal and pickup/delivery area).
2. Variable running time (between stops).

3. Stop time:
   a. Contact time
   b. Loading/unloading time
   c. Shipment constant time

Of these, stem time is unchanged by the number of stops on a trip or the quantity of freight handled at any stop. Variable running time is affected; in fact, it can approach zero if the number of shipments handled at one stop fills the truck making it a one-stop trip, but on the pickup only. The character of the delivery trip is indifferent to whether all of the shipments delivered at one stop came from one shipper, or from one shipper for each shipment. At the stop, contact time is the same per stop regardless of the number of shipments handled and is thus a potential saving. Loading time varies linearly with the quantity of freight; there are no economies of scale. Shipment-constant time is the same regardless of whether the shipments are tendered in a batch or singly.

This then, is the tally for pickup and delivery:

1. Stem time: no reduction.
2. Variable running time: reduction on pickup; potentially 100% of pickup or 50% of total pickup and delivery.
3. Stop contact time: reduction, assume 100%.
4. Stop loading/unloading time: no reduction.
5. Stop shipment constant time: no reduction.

To quantify this potential, we have the aggregated Highway Forms B of the MC-82 carriers upon which the Rate Bureaus base the traffic analyses accepted by the Interstate Commerce Commission as representative of the less than truckload industry. These show that Pickup and Delivery accounted for 31.2% of fully allocated total expenses in 1989 (the latest available at this moment) and that Billing and Collecting accounted for 3.0%.

In order to further dissect the Pickup and Delivery expense, we must turn to the latest ICC regional cost studies (1982). There is good reason to assume the relationships which will be used have not changed materially since then.

The data from the Rocky Mountain Regional study show that for shipments in the 1000 to 1999 pound weight bracket, pickup and delivery time was divided 19% stem, 28% variable running and 53% stop time. Further, loading and unloading constituted 21% of the man minutes at stops. There is no way to determine the breakdown between contact time and shipment-constant time so, to be conservative, both contact time and shipment-constant time will be assumed to be entirely eliminated (79% of Stop Time).

The final breakdown is, therefore:

Potential cost reduction due to multiple tender

From Pickup and Delivery:

	% of Total P & D
Variable running time (pickup only)	14.0
Contact and shipment constant time (79% of 53%, total stop)	42.0
Total from pickup and delivery	56.0%

From all sources:

	% of Total Expense
Pickup and delivery (56% of 31.2%)	17.5
Billing & Collecting (50% of 3.0%)	1.5
Total, all sources	19.0%

Thus, absent special circumstances which might be demonstrated by the carrier, it would appear that the maximum (actually overstated in some respects) that can be saved by tendering large quantities of freight at one time is 19.0% of the total expense.

It may be contended that this overlooks overhead and managerial economies. I think not. The "top level" team meetings required to negotiate these discounts, do not obviate routine sales contacts, which go on anyway. Moreover, tariff publication is complicated by the need to provide these special rate schedules in addition to the basic class rate schedules, already published, and which would apply in the absence of the discount provisions.

As suggested earlier, there may be other economies related to shipping conditions and in some cases costs may be influenced by otherwise empty backhaul movements. However, the prevalence of discounting arouses concern that rate-discounted freight, justified by backhaul considerations, may be moving in opposite directions in many traffic lanes. Concern may also be directed to the question of whether this is traffic which would not move at higher rates (Dr. Locklin's point); in this connection, note that this is traffic which moved by motor carriage before the Interstate Commerce Commission sanctioned discounting.

The stark truth is, as Attachment A documents, there is traffic moving at "on bill" discounts as high as 70% while there is substantial traffic moving at zero "on bill" discount. For clarification, "on bill" discounts are those ascertainable at the time of the shipment and which appear on the freight bill. There are also "off bill" discounts which do not appear on the bill because they cannot be ascertained until after the shipment is made. That is because this type of discount is contingent upon quantity shipped in a given period of time. The Attachment A analysis is incom-

plete in that it embraces "on bill" discounts only. However, that shortcoming does not materially alter the conclusions for two reasons. First, "off bill" discounts are much smaller than "on bill" discounts. Second, "off bill" discounting goes principally to the traffic enjoying the highest "on bill" discounts and thus exacerbates the potential for discrimination.

There is another side of discounting that is perhaps more reprehensible than the discrimination aspect. This is the practice which has developed in recent years of refunding to the shipper a stipulated discount on freight-collect shipments, for which the consignee pays the full, or perhaps slightly discounted, rate. The question of legality has been raised but never tested — fear of retribution by these major shippers silences acquiescing carriers. The ICC will not be aroused. This is the sort of thing that develops when the atmosphere of deregulation abounds. Other little peccadillos that appear are services rendered but not billed, such as late payment, duplicate copies of bills, waiting time, inside delivery, etc.

INTRASTATE DEREGULATION ACTIVITY

It is instructive to note what deregulation has taken place within the states. A quick answer is: not very much. Obviously inspired by the 1980 federal legislation which moderated regulation substantially, many states immediately began a reconsideration of intrastate motor carrier regulation. Many enacted legislation similar to the Motor Carrier Act of 1980. In every case there was a substantial lobby of the giant shippers seeking to extend the modification of regulation to a complete elimination. The political clout of such entities is not to be taken lightly. Nevertheless, complete intrastate deregulation got off to no more than a snail's pace which soon fizzled out completely. Adding to the two states which never were regulated (New Jersey and Delaware), six more states enacted complete deregulation over the course of the next five years: Florida, Arizona, Maine, Wisconsin, Alaska, and Vermont. Since 1985, not one state has found complete deregulation to be in the public's interest. Most have considered the notion and rejected it.

This turning away from the hot 1980 fashion-of-the-moment was best recognized in a paper entitled *Public Opinion about Regulation and Deregulation in the Transportation and Communication Industries* produced by the Consumer Federation of America (CFA) in May 1988. The paper cites numerous surveys dating from the mid 70's to 1987 on public attitude towards regulation/deregulation in which very clear secular trends can be seen. Support for regulation of telephones and all transportation modes, including trucking, according to CFA, declined to a low point in the early 80's and since had climbed back to the levels of the 70's. Support for deregulation had naturally followed the reverse trend. The latest

poll cited which dealt directly with trucking deregulation was taken by Business Week in July of 1987. When asked whether the results of airline, trucking and telecommunications deregulation had been positive, 49% of respondents said "no" while 46% of respondents said "yes." Note that the question was directed only to the *partial* deregulation that *had* taken place, not to whether further deregulation should be undertaken. What further trends have taken place in public opinion since 1987 is speculative but with the banking turmoil, the savings and load crisis and the airline failures there is reason to expect the trend in favor of regulation has continued.

THE COST OF TARIFF PROLIFERATION

The competitive activity engendered by the Motor Carrier Act of 1980 and fostered by the Interstate Commerce Commission (ICC) in its misguided regulatory posture, has resulted in a proliferation of tariff material, to the consternation of ICC staff and to those who would use the ICC tariff files: shippers, carriers and a vast army of attorneys, economists, academicians and data-gathers in general.

"Would use" is, regrettably, the appropriate verb form because many who, prior to 1980, made use of the files for a variety of purposes are inhibited from doing so today by both the staggering quantity of the files and by the break-down in both the filing requirements and the files themselves. Furthermore the tariffs, once located, are now so coded and structured that in many cases it is literally impossible to determine the applicable rate for a given movement.

Ironically, during the march towards regulatory reform in the late 70's, one of the rallying cries of the extremists was that current tariffs were too complicated, and too numerous. The marvelous simplicity of United Parcel Service tariffs was often cited as an example of what could be for the LTL carriers if freed of regulatory restraints.

Eleven years after enactment of the reforming legislation the score can be read. Regulatory change has drastically weakened rules prescribing the way rates must be presented in tariffs and bureau publication is an often rejected option with carriers — as intended by the deregulators. But the effect is the reverse of the promise! Complexity rather than simplification has resulted; volume has magnified rather than diminished. Oddly enough, it is the bureaus that have streamlined tariffs. Were it not for the explosion in individual tariffs, the ICC tariff library would be smaller and the contents more useable than in the 70's. But, individual tariffs, spawned by regulatory reform, have overwhelmed the system.

In 1980, according to the ICC Annual Report for 1980, there were 566,000 motor carrier tariff filings. According to ICC testimony at the Sep-

tember 19, 1991, Senate Oversight Hearing, approximately 1,300,000 filings were made in 1990, consisting of some 6,500,000 pages.

This glut of tariff material has overloaded ICC facilities and now consumes 6500 linear feet of shelf space for the current tariffs alone (tariffs applicable for the current year and two years past). This increase was entirely predictable, the contrary and naive expectations of the deregulators, notwithstanding.

This retrograde evolution in tariff preparation and filing has another quite significant and adverse consequence: increased cost to the carrier. Table VI is self explanatory.

TABLE VI
TRAFFIC AND SALES EXPENSE AS A PERCENT OF TOTAL EXPENSES

Year	Percent of Total	Year	Percent of Total
1974	3.1	1981	3.8
1975	3.5	1982	4.2
1976	3.5	1983	4.5
1977	3.4	1984	4.3
1978	3.3	1985	4.4
1979	3.2	1986	4.7
1980	3.6	1987	4.7

Source: ATA Financial & Operating Statistics, Annual Report: General Freight I-27 Carriers. Data for 1974 and 1975 from cumulative quarterly reports. Data not available after 1987 due to change in ICC Annual Report form.

Note in the table that Traffic and Sales expense hovered in the range of 3.1 to 3.5 percent of total expenses prior to 1980, averaging 3.33 for the six year period. After 1980 it started climbing steadily, reaching 4.7% in 1986, 41% greater than the pre 1980 average. This is added expense, coming right off the bottom line, which the carriers suffer for the privilege of being able to develop special rates for each major shipper, rather than reference an industry standard. Expenses of this sort produce no additional benefit to the carriers or to the shipping public.

Translating the above loss into dollars, the carriers included in ATA's 1987 data incurred expenses of $666,841,000 for Traffic and Sales that year. Had the expense been at the pre 1980 level of 3.33%, the expense would have been $472,598,000. The increased cost to that group of carriers, then, can be estimated at $194,243,000. Of course, all Instruction 27 carriers did not get into the ATA report so the actual figure would be somewhat higher.

CONCLUSIONS

The public good requires a financially viable industry, adequate to serve the needs of commerce at reasonable rates without discrimination.

These objectives cannot be met without regulatory oversight to prevent the carriers from the inevitable destructive competition which would ensue from a *laissez faire* attitude. The experience of eleven years since MCA has shown the consequences of abandoning this responsibility. The evidence of the calamity of this course of action is abundant.

Unrestrained competition needlessly tests the limits of carrier safety programs and driver practices in a multitude of ways.

Failure to actively regulate rates has spelled the death knell of cost-based rate making. Cost-based rate making has almost completely given way to marketing considerations since 1980.

Marketing considerations are proper elements of differential pricing but not to the total disregard of cost relationships. Not only should every rate return to the carrier the direct costs of providing transportation service but in addition it should also return as much of the indirect costs as possible — the criterion for this lower limit of indirect cost coverage being the rate above which the shipment would not move. It is shown that differential pricing has reached levels that far exceed any demonstrable cost justification.

The encouragement by the ICC and major shippers for carriers to eschew cooperation among themselves and act independantly has resulted in a proliferation of tariff material which is bewildering, incomprehensible and costly.

The uniqueness of the motor carrier industry is sufficient to explain why and how carriers will permit this to happen. Unless the government steps in to exert a moderating influence, carriers will weaken themselves financially and shippers will inequitably share the carrier cost burden.

ATTACHMENT A
DISTRBUTION OF MC-82 CARRIER TRAFFIC
BY
TYPE OF RATE

Type of Rate	Percent of Revenue
Class Rate	
no discount	19.684
< 10% discount	.301
10 to <20% discount	2.211
20 to <30% discount	5.588
30 to <40% discount	13.113
40 to <50% discount	18.231
50 to <60% discount	8.128
60 to <70% discount	.556
70% or more	.004
Freight All Kinds (FAK)	1.436
Contract	9.168
All other	21.579
Total	100.000

Source: Aggregated 1988 Continuing Traffic Studies of Central States Motor Freight Bureau, Eastern Central Motor Carriers Association, Middle Atlantic Conference, Middlewest Motor Freight Bureau, Rocky Mountain Motor Tariff Bureau and Southern Motor Carriers Rate Conference.
Note: "All other" includes Exception Rated, Commodity Rate, Section 22, Non-regulated, Released Value and Assembly and Distribution shipments expense.