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Effect of Increased Motor-Carrier Sizes and Weights on Railroad Revenues

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Railroad net revenue is directly related to motor-carrier rates and costs on all traffic for which motor carriage can be substituted easily for rail service. Increases in maximum lawful truck sizes and weights will lead to lower motor-carrier costs. Competition and regulatory pressure will translate these lower costs into lower rates. Railroads will have to either match the lower rates or lose traffic to the competing mode. In either instance, railroad revenue will decline as a result of the increased truck sizes and weights. The amount of loss depends on the reduction in motor-carrier costs and rates brought about by the increase in capacity, and by the proportion of existing rail traffic that will move by motor carrier if the relative rates of the two modes change. If motor-carrier capacity increases from 33 249 kg to 40 834 kg (from 73 280 lb to 90 000 lb), costs of operation and rates are estimated to decline by 16.8 percent. Potential for diversion from rail to truck was estimated by examining market shares of each commodity in each distance grouping. Available market share data suggest that railroads compete with motor carriers for traffic accounting for approximately 75 percent of rail revenue. Thus, a 16.8 percent decline in motor-carrier costs and rates would force railroads to make competitive adjustments that would cost the industry up to $2 billion.

An increase in motor-carrier size and weight limits will lower the cost of carrying goods by motor carrier, thus increasing the attractiveness of motor carriage over rail carriage. Lower motor-carrier costs would permit for-hire motor carriers to reduce rates to attract traffic from railroads and would lower the costs of private carriage. Where shippers view railroads and motor carriers as alternative means of shipping goods, a change in the cost of moving by one mode rather than another will encourage substantial diversion of traffic to the mode offering service at reduced cost. The mode affected by the diversion can either lose the traffic or lower rates to maintain its share of market. The amount of diversion that will result from a given change in relative prices is a function of the elasticity of substitution between the two modes, i.e., the degree to which shippers will change modes in response to a change in price. Elasticity of substitution will vary among commodities and over different distances for the movement of a single commodity.

The 1972 Census of Transportation (1) provides information about the share of market by mode for each 3-digit commodity code by distance block. Thus, one can infer the susceptibility of each commodity to diversion from the existing market share data. Where motor carriers already have a significant share of the market, they can be expected to substantially increase their market share if cost of shipping by motor declines relative to the cost of shipping by rail. In such cases, railroads must either choose to leave rates unchanged and lose the contribution to overhead such traffic previously provided, or reduce rates to hold onto traffic and incur a revenue loss equal to the reduced contribution to overhead. The sum of the reduction in contribution to overhead from lost traffic and from rate reductions equals the revenue loss resulting from the change in motor-carrier costs.

EFFECT OF CHANGES ON COSTS AND RATES

Motor-carrier net revenue is a function of revenue per 45.3 kg (100 lb) of freight carried, amount of freight carried, and costs of operating the tractor and trailer(s) over the route. Thus,

$$NR_1 = R_1(CAP) - TC \quad (1)$$

If heavier loadings are permitted, then at constant rates R_1, revenue increases by the amount of additional freight times the rate per 45.3 kg (100 lb), less any additional costs in operating the tractor and trailer(s). Thus,

$$NR_2 = R_1(CAP) + R_1(\Delta CAP) - (TC + \Delta TC)$$

and

$$NR = R_1[(\Delta CAP) - \Delta TC] \quad (2)$$

where

NR = Net Revenue,
TC = Total Cost,
CAP = Capacity of trailer(s) expressed in 45.3 kg (100 lb) and as constrained by law, and
R = Motor-carrier rate per 45.3 kg (100 lb).

As long as $R_1(\Delta CAP) > \Delta TC$ cost per 45.3 kg (100 lb) falls. For an unregulated carrier, competition will force down motor rates to levels approaching cost (including fair return). Regulated carriers are supposed to be regulated in such a manner that they only earn cost plus a fair return. Private carriers examine their cost of carriage when determining whether to use their own fleet or ship by common carrier. If competition, regulation, or cost per 45.3 kg (100 lb) determines charges against which railroad rates are compared when deciding which mode to use, then one can expect rates to fall as needed to hold net revenue at the break-even level (the break-even level permits a firm to earn a market rate of return). Competitive pressure will force motor-carrier rates and costs down to a level where net revenue is increased by enough to cover any increase in capital costs. Thus, a new rate level (cost level for private trucking) will emerge equal to the old level plus any additional costs of the increased size:

$$R_2 = [R_1(CAP) + \Delta TC]/(CAP + \Delta CAP) \quad (3)$$

The rate level falls proportionately with the increase in capacity except as countered by increases in costs resulting from operating at the additional capacity limits.

SUBSTITUTING MOTOR SERVICE FOR RAIL SERVICE

The level of revenue loss to railroads resulting from declining motor-carrier costs is, to a large extent, a function of how aggressively motor carriers seek to attract traffic previously moving by rail. If the history of diversion of commodities from rail to truck in the post-World War II period is prologue, the motor carriers will take advantage of reductions in costs brought about by changes in capacity constraints to attract traffic from railroads. If railroads continue to act as they have in the past, they will lower rates as necessary to try to retain traffic unless the rate reduction would result in out-of-pocket losses. Since railroad rates are typically lower than truck rates because rail service is generally perceived to be inferior to truck service for most commodities, a reduction in motor-carrier rates must bring forth a corresponding reduction in railroad rates that at least maintains the relative rate differential in order to maintain market share.

Ideally, one would like to measure the effect of relative rate changes on modal choice in each market by examining the change in modal traffic distribution that occurs as motor-carrier rates and private-carrier costs fall. The greater the opportunity to substitute one mode for the other, the larger the effect of a change in truck rates on diversion, and thus, the greater the rail rate reduction needed to hold traffic. Unfortunately, the specific data required for such an analysis are not normally available. Examination of market share data, however, can be used to infer the elasticity of substitution between truck and rail.

The inherent assumption in such an approach is that whenever a considerable portion of a commodity is already moving by motor carrier in a given distance block, a 16.8 percent reduction in motor rates is likely to trigger a substantial diversion of existing rail traffic to truck. The only alternative thesis would be that the service provided by the two modes is different and that changes in relative prices will not affect the distribution of traffic. The trend of market share data, shown in the Census of Transportation and in the Fresh Fruit and Vegetable Unload Data (2), supports the view that the services are close substitutes. In particular, the evidence shows that traffic has been shifting from rail to motor carrier whenever motor-carrier rates or costs fell relative to rail rates. Additional evidence of the pervasive nature of competition is found in the numerous hold downs found in railroad general rate increases and the scaling down or cancelling of rate increases by railroads on the grounds that competition would not permit it (3).

Similar evidence is available on a more geographically specific basis for grain movements moving through the Minneapolis-St. Paul area. Again, the market share of motor carriers has been rising over the past decade as motor-carrier rates fell relative to rail rates. Examination of available market share data collected on a monthly basis demonstrates that there is a high cross elasticity of demand between rail and motor services. Rail market share is largest in those months when truck rates are highest (usually during harvest or large international grain sale periods); it drops off sharply as motor-carrier rates fall. The variation in demand for rail services is extremely sharp, as truck prices move from levels below to levels above rail rates. Available market share data on produce demonstrates that the cross elasticity of substitution for transportation of agricultural products is very high (2). The general increase data provide similar support for the thesis that there is a high cross elasticity of demand for a broad set of manufactured products. The evidence on cross elasticity of demand, in turn, supports the thesis that rail rate reductions implemented to match motor-carrier rate reductions will generally minimize revenue loss as long as the resulting rail rate is above long-range incremental cost.

The evidence of high cross elasticity of demand for most manufactured and agricultural products must be measured for each commodity. Any commodity already moving by motor carrier to a significant extent is likely to exhibit high sensitivity in choice of mode to changes in relative rates. Commodities still moving completely by rail may be divertible to motor carriers as motor-carrier rates decline by 16.8 percent relative to rail rates. We have, however, followed the conservative approach of assuming that traffic currently moving primarily by rail will continue to move by that mode even if motor-carrier rates fall. To the extent the assumption is in error, estimates of diversion, and consequently of rail revenue loss, are understated. The higher the share is of a commodity already moving by motor carrier in a given distance block, the higher the amount of diversion that will occur as a result of a relative decline in motor-carrier rates. A 16.8 percent decline in motor rates will force explicit reevaluation of modal choice throughout the shipping community. Even when relatively major changes in packaging or in design of shipping and receiving facilities become necessary to shift modes, they are likely to be considered by shippers when relative changes in rates of this order of magnitude emerge.

For purposes of this analysis, we assume railroads will drop rates to meet truck competition for traffic currently carried by rail as long as the resulting rail rate remains above the long-range variable cost of moving the traffic involved. Motor carriers will seek to divert traffic from railroads by lowering rates as long as they can earn a market rate of return on both existing and new traffic. Specifically, market and regulatory pressures will cause motor carriers to continue to lower rates until diversion is maximized (because rail will not cut their rates further to hold onto traffic) or until competition for rail traffic or for other motor-carrier traffic forces rates to reach level R_2, the level that leaves them with the same rate of return they earned under the old capacity constraints. Whether railroad competition, intramodal truck competition, or competition with private truckers would force rates to level R_2 is a question that need not be answered for purposes of calculating the revenue loss to railroads resulting from changing size or weight constraints for motor carriers. The cost to railroads will be the same regardless of the source of downward pressure on rail rates.

Not all traffic moves at railroad rates sufficiently close to truck rates that a change in truck cost resulting from a capacity increase will make a truck movement competitive with railroad movement. Some traffic moves by railroad because rail rates are such that even substantial reductions in motor-carrier costs would not result in rates competitive with those of the railroads. Movements over any distance of coal, ores, and gravel are often cited as examples of commodities that fall into this class. Finally, for many commodities, trucks are thought to be competitive over shorter distances, but not competitive over longer distances as railroad average costs per kilometer tend to drop, while corresponding average truck costs remain relatively constant. Both the ability to move by each mode and the effect of distance on modal choice are tested for each major commodity group in order to determine how much rail traffic is divertible to motor carriers.

Other traffic moves by railroad for reasons unrelated to the relative level of long-term costs (at least within the range of change contemplated here). For example, a shipper who relies on private trucking for the majority of a firm's shipments may use rail services to handle some traffic during peak shipping periods. In this manner, the shipper can keep the firm's private truck fleet fully utilized. The shipper will use rail carriers for peak load movements whenever the rail rates are lower than the cost of maintaining a partially utilized truck fleet. Those shipping primarily in unregulated trucks may find times when truck rates rise above the rail rates in response to short-term changes in market conditions unrelated to costs of providing service. At such times, these shippers will shift to rail transportation for brief periods. Finally, some traffic moves by rail even at rates higher than motor-carrier rates because of preference of the consignor, consignee, or both. A firm set up to handle all incoming shipments by rail may demand rail service even when, on occasion, rail rates are higher than motor-carrier rates simply because of the inconvenience associated with receiving an occasional shipment by truck.

INCREASING MOTOR-CARRIER CAPACITY AND COSTS

Federal law permits motor carriers to carry up to 36 288 kg (80 000 lb) unless constrained by a lower limit set by any state through which the carrier moves. Many states have imposed such lower limits. Since lower state limits not only constrain movements originating or terminating in a state but also movements going through the state, it is impossible to say what traffic is subject to which weight constraint. More important, the market share data available from the 1972 Census of Transportation (1) reflect the effect of the old 33 249-kg (73 280-lb) weight limit on relative market share. Thus, for the purpose of evaluating the effect of an increase in size and capacity to 40 834 kg (90 000 lb), the analysis is based on a 33 249-kg (73 280-lb) weight limit. Some have asserted that the railroads are already suffering diversion on reduced revenues as a result of the increase to 36 288 kg (80 000 lb); however, no quantification of the effect of the change on rail traffic or revenue has yet appeared.

When weight limits are increased, motor-carrier costs rise by less than net cargo weight and revenue (assuming constant tariff rates). This occurs because some components of motor-carrier costs do not vary in direct proportion to gross vehicle weight. Cost components such as driver wages and certain taxes are independent of vehicle weight. On the other hand, tire cost is a direct function of weight and will increase 1 percent for every 1 percent increase in weight. Maintenance and fuel cost are essentially directly proportional to engine power output. Engine power output at 88 km/h (55 mph) is, in turn, about 50 percent dependent on weight and 50 percent dependent on aerodynamic drag. Thus, holding speed and vehicle frontal area constant, maintenance and fuel costs increase only 0.5 percent for each 1 percent increase in gross vehicle weight. The relationships of vehicle purchase price (and, thus, depreciation and financing costs) and of insurance costs to gross vehicle weight are less clear. An estimate of a 0.5 percent increase in cost for a 1 percent increase in gross vehicle weight seems reasonable. [Doubling this estimate to 1 percent—a directly proportional relationship—or decreasing it to 0 percent (no relationship) produces only a 1 percent change in total operating cost.]

When applied to an increase in gross weight from 33 249 kg (73 280 lb) to 40 834 kg (90 000 lb), these parameters, applied to motor-carrier operating costs, define a 16.8 percent decrease in cost per ton of cargo. If rail-competitive truckload rates reflect cost (and competition from private carriage and rail rates probably force them to this level), railroad rates would have to decline by at least this same 16.8 percent on truck-competitive traffic to hold that traffic on rail. To the extent rail rates are lower than motor rates to reflect a quality of service differential, a further decline may be required.

DETERMINING EXPECTED DIVERSION

Market share information by commodity and distance block is available in the 1972 Census of Transportation (1) from which inferences may be made about the intermodal cross elasticity of demand. The evidence presented here suggests that the higher the motor-carrier share of the market, the higher the cross elasticity of demand and the greater the rate adjustment a railroad must make to hold onto its traffic. In those markets where railroads have a large proportion of the market, a less than proportionate rate reduction is needed to hold onto market share. Alternatively, if the rate reduction does not occur, the expected amount of diversion to motor carriers is smaller. As the motor-carrier existing market share rises, the substitution prospect of motor service for rail service is demonstrably greater, and motor-carrier rate reductions must be more nearly matched by railroads if they are to hold market share.

Motor-carrier service is generally considered to be superior to rail service. Thus, shippers will pay a premium and continue to use motor service. Since the value of the service differential is different for different shippers (higher for the shipper not located on a railroad line than for the shipper located on a frequently served industrial siding), the effect of a given change in relative rates on different shippers will be different. Basically, the service differential almost always favors the motor carrier. Thus, the resulting estimate of the cost of motor rate reductions, if it is in error at all, will be on the low side.

If rail market share is 80 percent or greater in a distance block, and in the next shorter distance block railroads carry over 60 percent of the traffic, we assume a decline in motor-carrier rates will not result in diversion of traffic. If the market share for a given commodity is 80 percent, but the market share in the preceding distance block is under 60 percent, however, some traffic may well be divertible as a result of a reduction in motor-carrier rates, since market share would be partly distance related. In such an instance, we estimated that either rail rates would have to be reduced by 25 percent of the reduction in motor-carrier rates, or 25 percent of the rail contribution to overhead previously earned on that traffic would be diverted to motor carriers. This implies that, either because of rate reductions or diversion of traffic, the railroads will lose net revenue equal to one-quarter of the reduction in motor-carrier rates. This is the least reliable estimate of cost presented because the reasoning is most tenuous. It can, however, be shown that only a small portion of the railroad traffic that falls into this category could be carried by motor carrier over any distance even at substantially lower rates.

If the rail market share is between 50 and 80 percent in a distance block, we estimate that railroads will have to reduce their rates by one-half of the reduction in motor-carrier rates in order to maintain their market share. Alternatively, if they fail to make the rate reduction, the reduction in revenue will be at least as severe as the reduction associated with lowering the rates. The estimate is conservative since it assumes a relatively low cross elasticity of demand. Thus, while the methodology is not precise, the diversion estimate is again biased downward to minimize the possibility of overstatement of the cost of a motor-carrier rate reduction to railroads.

If railroads move less than 50 percent of a commodity in a given distance block, we estimate that the elasticity of substitution is very high and that all of the traffic is subject to diversion. Thus, railroads that do not respond to motor-carrier rate reductions with matching rail rate reductions will lose most of their traffic in that commodity and distance block.

The adjustment factors are conservative estimates. If regulatory constraints or inertia of railroad management inhibit the adjustment of rail rates to changed competitive conditions, diversion is likely to be higher than estimated. While one could dispute the 50 and 80 percent break points, it is likely that the dispute would be centered on whether the adjustment posited would be adequate to hold market share rather than on whether the adjustment was too great. In the majority of cases for which significant additional diversion will result from lower motor rates, railroads are already competing against private common and contract motor carriers who move more than 50 percent of the commodity involved.

The nature of American industry has changed to the point that relatively few products move over 2400 km (1500 miles). Firms have chosen either to establish regional production centers servicing markets relatively close or at least to locate in the center of the country (as in the case of the automobile industry). Thus, the length of haul to most of their markets is reduced. Agricultural products are to a large extent produced in more than one region of the country. As a result, relatively small amounts of traffic move over longer distances relative to the share moving over shorter distances. It has also tended to make railroads compete primarily in the short-haul markets where the disadvantages of slowness and unreliability are magnified. Predictably, the result has been that traffic once moved exclusively by rail is now moving largely by truck. The prospect that railroads will lose their remaining market share is substantial if motor sizes and weights lead to 16.8 percent reductions in rates and the railroads do not match those reductions. In light of this, we can estimate that the cost of lower truck rates to railroads will be high no matter what course of action the railroads choose to take.

RESULTS OF ANALYSIS

The factors developed above were used to adjust the gross traffic data by commodity to determine what the effect of a reduction in motor-carrier costs and rates would be on rail traffic moving under each circumstance. In some instances, we estimated that a reduction in motor rates would require a reduction of lesser magnitude in rail rates if the railroad were to escape diversion. We also assumed that a failure to reduce rail rates would result in a diversion of part of the affected rail traffic to motor. In either case, the revenue loss estimated for the railroads was about the same. The dispute as to how much traffic is moving at what cost/price ratio makes clear that such measurement precision is not yet available, at least to the public. Thus, the simplifying assumption is not likely to yield results significantly less precise than would an examination based on available cost data.

On the traffic for which the rate reduction must match the motor-carrier rate reduction, we assumed that all of the traffic was moving at levels sufficiently above variable cost to make such a reduction the least cost alternative. Again, it is not clear that this is always correct. It is clear, however, that available cost information is sufficiently imprecise that it is not a good indicator of whether carriers choose to continue to carry particular traffic at reduced rates.

Finally, the data themselves are most interesting. The evidence available on market share shows that railroads face effective competition for the movement of most goods at the 3-digit Transportation Commodity Code at distances. The census data provide market share data for traffic moving in distance blocks from under 160 km (100 miles) to over 2400 km (1500 miles). Given the propensity to produce either in regional facilities or facilities in the center of the country, this means that almost all commodities are available from at least some producers at distances less than market. Thus, while available data include all traffic moving over 2400 km (1500 miles) in one distance block, the effect on this analysis is not likely to be substantial.

The analysis of the effect of increased sizes and weights was predicated on both size and weight increasing. The cost of moving a heavier truck was calculated but the cost of operating a double bottom was not. However, at the 3-digit level, all of the commodities moving in truckload lots—and therefore competitive with railroads—were generally sufficiently dense to permit heavier loadings. If only an increase in weights were permitted with no increase in cubic capacity, the estimate of cost to railroads could be reduced. The low estimate presented here provides an estimate of cost that assumes some volume limitations on expansion exist.

The evidence on share of traffic by mode shows that railroads compete with motor carriers for most of the traffic they carry. For example, even at distances over 2400 km (1500 miles), railroads carry only 54.6 percent of grain mill products; private trucks carry 16.6 percent, and common carriers carry 26.5 percent. In that same distance block, railroads carry 29.5 percent of manufactured fiber and silk broadwoven fabrics, 66.6 percent of the thread and yarn, 32 percent of household and office furniture, 23 percent of the plastic materials, 56 percent of the glass and glassware (blown), and 65 percent of the fabricated rubber products. [The market share information for all commodities is available in the Census of Transportation (1).] Thus, even at these distances, railroads face substantial motor-carrier competition for the traffic they carry.

Market shares were identified for each 3-digit commodity at the following distance blocks: under 160 km (100 miles), 160-318 km (100-199 miles), 320-478 km (200-299 miles), 480-798 km (300-499 miles), 800-958 km (500-599 miles), 1600-2398 km (1000-1499 miles), and over 2400 km (1500 miles). The market share possessed by railroads in each distance block was weighted by the diversion factors discussed here to determine the proportion of traffic subject to diversion. These factors were then weighted by the total revenue earned by railroads for each commodity in each distance block. The resulting estimate of divertable traffic is summarized in Table 1. Column 1 shows the percentage of total revenues not subject to diversion. Column 2 shows gross freight revenues attributable to each commodity (5), and column 3 shows the revenue earned on traffic not subject to diversion. The sum of the remaining revenue is that which will be reduced if motor carriers lower rates on the commodities and force railroads to either post matching rate reductions or suffer diversion. The percentage motor-rate reduction multiplied by the revenue earned by railroads on traffic subject to diversion provides an estimate of the cost to railroads of motor carrier and rate reductions. If motor carriers reduced rates by 16.8 percent on all traffic for which they competed with railroads, in 1974 it would have cost the railroads 16.8 percent of their $12.2 billion in revenues, or $2 billion. If one assumes that size constraints and market imperfections inhibit the decline in motor-carrier rates, the amount diverted would be reduced. For example, if one assumed that size constraints and market rigidities caused motor-carrier rates to fall by only 11 percent, the resulting cost to railroads would be $1.35 billion. Most traffic for which

Table 1. 1974 railroad gross freight revenues not subject to diversion.

Commodity	Percent	Gross Freight Revenues ($000 000s)	Revenues Not Subject to Diversion ($000 000s)
Grain-mill products	8.5	504 890	43 015
Sugar (beet, cane)	7.8	123 353	9 560
Cigars	17.2	304	52
Carpets, rugs, textile	33.1	12 056	3 992
Yarn and thread	1.3	4 826	64
Men's, youth's, and boy's clothing	27.7	931	258
Women's, misses', girls', and infants' clothing	7.7	508	39
Miscellaneous apparel and accessories	23.7	8 707	2 064
Primary forest products	8.9	515 919	44 266
Millwood, veneer, plywood	19.2	228 771	43 855
Miscellaneous wood products	1.0	128 196	1 329
Household, office furniture	3.3	86 822	2 891
Partitions, shelving, lockers, and fixtures	2.9	2 617	76
Pulp and pulp-mill products	18.2	146 012	26 529
Paper, except building paper	2.1	335 252	6 973
Paperboard, pulpboard, and fiberboard	4.8	326 673	15 583
Converted paper and paperboard products	17.4	151 682	26 317
Drugs	0.2	10 028	180
Tires, inner tubes	46.8	81 986	38 378
Miscellaneous fabricated rubber products	3.7	7 894	293
Miscellaneous plastic products	2.1	56 828	1 187
Glass and glassware, pressed and blown	1.7	38 898	661
Structural clay products	0.5	77 492	403
Concrete, gypsum, and plastic products	0.4	83 794	335
Abrasives, asbestos, and nonmetallic products	2.8	368 770	10 325
Steel works and rolling mill products	0.9	696 868	6 132
Plumbing fixtures and heating apparatus	7.9	14 452	1 136
Metal stampings	44.5	20 050	4 476
Miscellaneous fabricated metal products	2.8	39 584	1 097
Engines, turbines	2.9	12 189	350
Farm machinery, equipment	14.8	61 837	9 170
Construction, mining, and materials handling equipment	3.7	73 555	2 692
Specialized industrial machinery	2.2	9 616	210
Office, computing, and accounting machines	27.0	749	202
Service industry machines	18.0	18 209	3 274
Miscellaneous machinery and parts	2.3	14 708	338
Household appliances	67.8	153 992	104 467
Radio, receiving sets	10.1	17 004	1 719
Motor vehicles and motor vehicle equipment	58.9	1 199 642	703 829
Railroad equipment	17.4	52 006	9 065
Photographic equipment and supplies	32.5	1 006	327
Toys, sporting, and athletic goods	22.9	21 747	4 987
Miscellaneous manufactured products	10.9	7 173	781
Metallic ores	100.0	494 207	494 207
Coal	100.0	1 848 352	1 848 352
Nonmetallic minerals	100.0	603 934	603 934
Cut stone, stone products	100.0	327	327
Ashes	100.0	724	724
Containers, shipping, returned empty	100.0	27 930	27 930
Commodities completely subject to diversion	0.0	7 669 378	0
Total	25.1	16 353 448	4 108 351

motor carriers compete with railroads is sufficiently dense to be loaded to 40 834 kg (90 000 lb) in existing equipment. Further, the truckload motor-carrier industry is extremely competitive. Thus, increased weight adjustments are likely to impose net revenue reductions equal to at least $1.35 billion on railroads. If both weight and size adjustments are permitted, railroad revenues are likely to fall $2 billion or more.

CONCLUSION

This analysis is not designed to provide an argument against increasing truck sizes or weights. Such arguments revolve around questions of safety, wear of the roads, and whether motor carriers receive right-of-way subsidies or pay their own way. It is designed to show the effect of increasing motor-carrier sizes and weights on railroad revenues. An increase in allowable motor-carrier sizes and weights will substantially reduce railroad revenues. Any societal problems this creates should be dealt with at the same time that the motor-carrier sizes and weights are increased.

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