Problems and Opportunities in Regulated Market for Railroad Freight Cars

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Railroads are compelled by the existing regulatory structure that concerns car hire and car service to adopt strategies that result in excessive empty miles. During surplus periods, for example, owning railroads drastically reduce their reuse of foreign equipment and instead use system equipment for on-line and off-line loading in order to maximize short-term per diem income, which results in dramatic increases in the number of empty miles generated on all railroads. The Interstate Commerce Commission and the railroad industry have responded to this problem recently and have proposed and implemented changes in both the car-hire and car-service areas. In this paper, the nature of these changes is described and the actual experience of the industry to date with these changes is analyzed to illustrate the inherent structural problems that remain. More market-oriented solutions can be implemented to replace the existing set of car-hire and car-service regulations, and several are described in this paper. In such an environment, appropriate incentives will naturally evolve to ensure that (a) the minimum necessary fleet investment is made by car owners and (b) this asset is employed in the most efficient manner by car users.

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There is little question that mandatory per diem coupled with mandatory interchange contributes directly to this inefficiency. Owners are often indifferent to the wasted transportation expense of cross-hauling empty cars because their per diem revenues are guaranteed under the current regulatory system and are high compared with that portion of the excess empty miles that they incur.

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PRESENT CONDITIONS IN FREIGHT-CAR MARKET

Present levels of efficiency in the use of freight cars are very low. The results given in Table 1 (1) document the phenomenon of empty miles on a sample of railroads, which includes the Consolidated Rail Corporation (Conrail), during the first half of 1980. While loaded miles declined substantially in 1980 for each of the railroads shown (except Conrail), the number of empty miles for each carrier increased markedly. The results for those railroads show an increase in total mileage to handle substantially less business. These data are only for the major free-running classes of equipment over which an individual railroad has a substantial amount of discretion with respect to the use of foreign equipment.

There is no inherent reason why the ratio of empty miles to loaded miles should change in an efficiently operated system. If one assumes that the railroads in Table 1 operated at maximum efficiency with respect to freight car use in the first six months of 1979, it would follow that the same railroads incurred roughly 75 million unnecessary empty-car miles in the first six months of 1980. [This number was arrived at in the following manner. The ratio of empty miles to loaded miles in the first six months of 1979 was 180/349. By multiplying that ratio times the number of loaded miles in the first six months of 1980 results in a figure of 144 million. Then subtract that figure from 218 million, which is the number of actual empty miles in the first six months of 1980.] In other words, 34 percent of all empty-car miles in the first six months of 1980 were probably unnecessary. In fact, the real waste is probably much higher, since considerably greater efficiency would have been possible in 1979 in a free market system. By assuming that the present hauling charge of $0.31/empty mile constitutes a fair measure of the actual cost of moving empty cars (which was the price negotiated between members of Trailer Train), these 75 million empty miles resulted in a wasted expense of about $23 million.

Another measure of efficiency of rail car use is the ratio of loaded to empty (L/E) cars delivered to, and received from, connecting carriers at interchanges. Table 2, which is taken from the Association of American Railroads (AAR) car service division accounts of interchange activity for 1979 and 1980, shows for several carriers the dramatic reduction in these ratios that occurred in 1980 as car surpluses grew.

REGULATORY RESTRAINTS ON OPERATION OF FREIGHT CAR MARKET

Any effort to introduce competition into the car-hire market must proceed from an understanding of the panoply of regulatory restraints on competition in the present car-hire system. The principal regulatory restraints on the operation of car-rental markets are mandatory interchange and mandatory per diem. Under mandatory interchange, carriers are required to accept loaded cars at interchanges with other carriers (provided that the cars are properly en route to a destination for unloading). Although changes in the rates for transportation of the goods are generally subject to negotiation, the originating carrier who owns the loaded car may dictate the car-hire rates [up to the present ceiling levels established in ICC Ex Parte 334 (Car Service Compensation, Basic Per Diem Charges, 1980)] without the concurrence of the receiving carrier. Mandatory per diem is the obligation of the receiving carrier to pay the per diem charges at the levels prescribed by the ICC for the entire time the car is on the receiving carrier's line, unless the originating carrier at its option dictates a different level. The obligation applies regardless of the receiving carrier's need for the car once it is unloaded and regardless of the costs to the receiving carrier of moving the car (or storing it, if appropriate).

Together, then, mandatory interchange and mandatory per diem clearly give originating carriers complete market power vis-à-vis their connecting

Table 1. Comparison of loaded to empty rail miles, 1979 and 1980.

	Loaded Miles (000 000s)		Empty Miles (000 000s)	
Railroad	First Six Months, 1979	First Six Months, 1980	First Six Months, 1979	First Six Months, 1980
Conrail	162	116	87	84
A[a]	39	34	18	32
B[a]	73	64	39	52
C[a]	75	64	36	50
Total	349	278	180	218

[a]Identity withheld to protect confidential data.

Table 2. L/E ratios of cars delivered to and received at interchanges, 1979 and 1980.

Railroad	Year	L/E Ratio of Cars Delivered to Interchange	L/E Ratio of Cars Received at Interchange
Conrail	1979	1.21	2.57
	1980	0.83	1.58
D[a]	1979	0.96	2.88
	1980	0.69	1.90
E[a]	1979	2.25	0.99
	1980	1.66	0.78
F[a]	1979	2.46	1.16
	1980	1.20	0.75
G[a]	1979	1.43	1.53
	1980	1.01	1.09
Total	1979	1.52	1.72
	1980	1.01	1.17

Note: Data are for second quarters of 1979 and 1980 only.
[a]Identity withheld to protect confidential data.

carriers with respect to hire charges on cars owned by the originating carrier. This power is monopolistic in that the originating car owner can force the car user to both use and pay for the car, regardless of its economic value to the user. Without some countervailing forces, one would expect originating carriers never to dictate rental charges on their cars below the maximum permitted by law.

This tendency for car-hire charges to remain at their legal ceiling has been dramatically illustrated during the last year since the ICC formally authorized reductions. In Ex Parte 334 (Sub. No. 4) (Order Granting Railroads Flexibility in Setting Per Diem Levels, August 18, 1980), the ICC gave railroads the right to make unilateral reductions in car-hire charges below the prescribed levels of Ex Parte 334. The ICC (and Conrail) expected that during the emergency surplus that existed during 1980 and 1981, railroads would lower their per diem rates to encourage more off-line use of their cars and, accordingly, less cross hauling of empty cars. The results have been nil. Railroads generally have maintained their per diem charges at the maximum permissible limits. Conrail is an exception. Since October 1980, Conrail has offered to reduce its per diem charge to zero on the entire loaded movement for any railroad that loaded a Conrail plain boxcar to or via Conrail. However, Conrail has experienced no increase in the number of cars loaded to it.

The regulated system of car-hire charges between carriers, coupled with mandatory interchange, contributes directly to the inefficient use of cars cited earlier. Originating railroads have continued to seek ways to maximize their per diem revenues by keeping their own cars off-line as much as possible. They are largely indifferent to the wasted expense of cross-hauling empty cars because the guaranteed off-line per diem revenues are high in comparison with the additional expense of hauling foreign empty cars off their lines (rather than reloading them), and they do not bear the expense associated with off-line hauling of their cars.

A recent study by the AAR Freight Car Utilization Program (2) provides additional evidence of the effect of mandatory per diem on car use. This study examined the relative time boxcars spent empty and under load in a given cycle under several different restrictions. Significantly, Railbox cars spent roughly 30 percent less time empty per cycle than free running non-Railbox cars (i.e., cars that were exempt from car-service rules that required return of empty cars to their owner or source). (The actual figures were as follows: The average ratio of empty days to loaded days for Railbox cars in a cycle was 0.67; the same ratio for non-Railbox cars was 0.86.) The only pertinent difference between these two categories of cars was that per diem payments for Railbox cars were freely negotiated by participants in Railbox, whereas the non-Railbox cars were subject to ICC-prescribed incentive per diem.

The results of this Freight Car Utilization Program study are consistent with the more general experience that Railbox cars, on average, operate loaded-to-total-mileage ratios of 80 to 90 percent whereas the plain-boxcar fleet in this country, as a whole, operates a loaded-to-total-mileage ratio of only 50 to 60 percent. If the national boxcar fleet operated as efficiently as Railbox, the annual reduction in empty-car miles might approach 1 billion miles, which represents a potential saving to the industry of as much as $300 million.

CHANGES THAT WOULD PROMOTE A COMPETITIVE MARKET FOR FREIGHT CARS

The concept of a competitive market for freight cars is effectively presented by Felton in his book, The Economics of Freight Car Supply (3). Short of the formal establishment of a "commodity's like" market structure where buyers and sellers would bid for freight cars, as advocated by Felton, we believe that a number of changes to the existing regulatory structure would be effective in stimulating the creation of a more competitive and efficient freight car market.

Elimination of Mandatory Interchange

The most direct and effective way to bring about a competitive car-hire market would be to formally declare what Congress has already implicitly decided: The anticompetitive doctrine of mandatory interchange is no longer in force, except to preclude irrational economic behavior. The end result would free connecting carriers to negotiate car-rental terms on an equitable basis. Since carriers no longer would have any obligation to originate traffic that is not fully compensatory, the common interests of connecting carriers in encouraging interline traffic that is capable of covering their costs would ensure the negotiation of interchange agreements that would prevent disruption of traffic flow (as has been clearly demonstrated by the railroads' experiences with deregulated fresh fruit and vegetable movements). Moreover, regulatory methods are available that could prevent shipper inconvenience without restraining car-rental markets if such methods prove to be necessary to supplement market incentives.

Elimination of Mandatory Car Hire

Elimination of mandatory car hire would result in negotiated car-rental agreements in which car users could insist on charges commensurate with the benefit of using the car. Neither owners nor using carriers would be at an unfair advantage in such negotiations--both would be constrained by their interest in revenues from interline movements. Deregulated car hire would also tend to increase the total efficiency of the railroad network. Where costs are fairly allocated through the process of negotiation, both parties would have an incentive to increase efficiency by eliminating unnecessary empty mileage and, to the extent the market for transportation would support the acquisition of additional cars, those cars would be acquired because owners would be assured of payment by shippers or using carriers.

Short of total elimination of mandatory car hire, substantial efficiencies could still be achieved by eliminating prescribed per diem for the period when cars are not under load. This would provide a strong incentive for owning railroads to minimize empty mileage and would relieve using carriers of the unjust burden of paying for cars when they have no value to them. (Fairness and sound economics also dictate that user carriers have the opportunity to recover any per diem charges that continue to be mandatory in their joint rate divisions and to vary their division in accordance with changes in per diem levels.)

Establishment of Empty Mileage Charges

If per diem is deregulated, empty mileage charges should be allowed. If per diem is not deregulated, they should be prescribed. Charges to owning carriers for costs associated with empty mileage would both (a) discourage owners from insisting on unnecessary hauling of empty cars and (b) compensate users for the real cost of empty movements that provide them no direct benefit. Although these charges should ultimately be established by agreement under a deregulated system, the ICC, as an initial step, could prescribe the $0.31/car-mile rate that has been agreed on voluntarily by users of Trailer Train cars. If car hire is permitted to fluctuate, this rate should also be permitted to fluctuate.

The elimination of mandatory per diem and use of empty mileage charges would promote a sound, competitive environment in which car-hire rates could be expected to fluctuate with variations in supply and demand. (The result of a fully deregulated car-hire environment might well be the expanded reliance on pooling agreements. The successes with existing pooling agreements are compelling evidence of the industry's ability to manage interline use of freight cars on a consensual basis.) In such a system, car owners would assume no greater risk than is fairly associated with any other business investment in a free market.

Authorization of Bilateral Agreements

Apart from (or in addition to) any other measures, carriers should be permitted to enter into bilateral agreements at any level of per diem. Bilateral agreements are the mechanism whereby buyers and sellers in a free market voluntarily match price to demand. The ICC has already authorized carriers to enter into bilateral agreements for car hire below the prescribed levels [Ex Parte 334 (Sub. No. 4)]. If, due to particular supply and demand conditions on other lines, particular carriers are willing and able to agree on fair per diem charges above the prescribed Ex Parte 334 levels, there is no rational basis to preclude them from doing so.

SUMMARY

The regulatory structure that determines how using railroads compensate owning railroads for the use of their freight cars has been described. These rules encourage individual railroads to use cars inefficiently, which results in both unnecessary empty-car miles and excessive investment in the fleet as a whole.

More market-oriented solutions can be implemented to replace the existing set of car-hire regulations. In such an environment appropriate incentives will naturally evolve to ensure that (a) the minimum necessary fleet investment is made by car owners and (b) this asset will be employed in the most efficient manner by car users.

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Extraterritorial Impact of U.S. Deregulation on Canadian Railways and Shippers

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The attempt on the part of the Canadian railway industry to obtain immunity from the extraterritorial reach of U.S. antitrust laws is described. This paper outlines various areas where conflict between Canadian and U.S. transportation law exists. Examples are given in such areas as contract rates, surcharges, limitation of liability, rebates, route cancellations, and Section 229 appeals to the Interstate Commerce Commission and the special considerations that must