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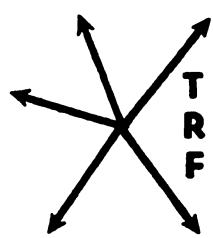

TRANSPORTATION RESEARCH FORUM

Recent Developments in Rail Regulation—Reinterpreting the 4-R Act

by John P. Formby and Judith Herman**

I. INTRODUCTION

THE ratemaking reforms of the Railroad Revitalization and Regulatory Reform (4-R) Act of 1976[1] provide for great reliance on free market forces to establish prices and allocate resources in the rail transport industry. The Act was initially thought to have great potential.[2] Much regulatory discretion, however, was granted to the Interstate Commerce Commission (ICC or Commission). In a series of Ex Parte decisions in 1976 and 1977 the Commission interpreted the ratemaking provisions in such a manner that virtually none of the intended rate flexibility has emerged. As a consequence, the 4-R Act is now regarded in some quarters as a failure.[3]

In early 1980, the Commission reopened several of the most important Ex Parte proceedings interpreting the 4-R Act. The ICC is now proposing fundamental revisions that have the potential for significantly reducing the scope of rail regulation and implementing the pro-competitive intent of the 4-R Act. This paper reviews and evaluates the new initiative. Part II considers the rulemaking relating to "market dominance". Demand sensitive pricing is analyzed in Part III. Part IV discusses contract rates. The final section provides a brief evaluation emphasizing the need for a complementary policy promoting intramodal competition.

II. MARKET DOMINANCE

The 4-R Act requires maximum rate regulation for market dominant traffic and frees nonmarket dominant traffic from such regulation. Market dominance is defined as the ". . . absence of effective competition from other carriers or modes of transportation for the traffic or movement to which a rate applies."[4] The term "captive shipper" has come to be used almost synonymously with market dominance. The Commission has the responsibility for establishing rules and regulations for identifying and judging when rail traffic is market dominant. The language of the Act is such that the ICC has considerable discretion. A broad interpretation would free large volumes of traffic from maximum rate regulation; a narrow interpretation maintains tight regulatory control.

An optimal approach to interpreting and applying the market dominance provision would be facilitated if a practical and reliable index of rail monopoly power existed. In principle a number of theoretical measures could be used. Unfortunately, neither an ideal index nor ideal data are available and the Commission must use imprecise proxies.

A. Existing Market Dominance Rules

The current market dominance regulations were adopted in Ex Parte No. 320, a special proceeding decided in October 1976.[5] The rules create a rebuttable presumption that market dominance exists when one or more of the following three conditions are satisfied:[6]

- the market share of the carrier is 70 percent or more of the involved traffic.
- the rate at issue exceeds the variable cost of providing the service by 60 percent or more.
- affected shippers or consignees have made a substantial investment in rail-related equipment which prevents or makes impractical the use of another carrier or mode.

A number of parties to the proceeding including the Department of Transportation, the Department of Justice, and the Council on Wage and Price Stability argued that the ICC's proposed market dominance standards would define far too much traffic as market dominant, would impair rate flexibility, and would fail to implement the pro-competitive intent of the 4-R Act.[7]

These fears were well-founded. An ICC study indicates that under the current rules 49 percent of all rail traffic is classified as market dominant.[8] Another study prepared for the ICC estimates

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that as much as 78 percent of all rail traffic is defined as captive under current procedures.[9] Although the amount of traffic that is actually non-competitive is not known with precision, the available evidence suggests that it is much smaller than the amount that is classified as market dominant under the current procedures. A recent study prepared for the Commission suggests that in terms of long-run substitution possibilities the amount of rail traffic that is market dominant may be less than 5 percent.[10]

The Commission has noted that the market dominance regulations are regarded as the cornerstone of the 4-R Act reforms, and existing procedures may have had a "chilling effect" on rail rate flexibility.[11] Other studies confirm this and strongly indicate that the 1976 market dominance rules have seriously deterred rail rate flexibility. A recent study for the Department of Transportation summarized the effects of the 4-R Act reforms as follows:

> "In conclusion, the market dominance definitions and the rules specified in the Ex Parte procedures have nullified the rate flexibility objectives and the expectations about regulatory reform found in the 4-R Act. No significant changes in making use of the 4-R Act provisions may be expected while the Ex Parte rulings governing the use of the provisions are still in effect."[12]

B. Proposed Market Dominance Rules

In January 1980 the Commission reopened Ex Parte No. 320 and proposed substantial revisions in its procedures for determining when rail shipments are market dominant.[13] The proposed rules use the relationship between rail rates and variable costs (revenue-to-cost ratios) to identify the traffic for which the question of market dominance should be addressed. The ratios also identify the party with the burden of proof. Once the issue of market dominance for particular traffic is before the Commission, it is to be judged on a case-by-case basis using economic evidence relating to rail market power.[14]

The proposed rules drop all reference to the market share and substantial investment tests and utilize two critical revenue-to-cost ratios as indicators of market dominance. In brief, the rules provide:

- **Proposed Rates below 150% of variable costs.** A prima facie case exists that effective competition prevails. Market dominance is not an issue and rates will neither be suspended nor investigated. Should a rate protest be filed, the burden of proof is on the shipper and the only issue is whether the rate is above or below 150 percent of variable costs.
- **Proposed Rates between 150% and 180% of variable costs.** In this range there will be no presumption about market dominance or effective competition. If a proposed rate is challenged it may be investigated and suspended. The burden of proof is on the protestant. Railroads have a burden of producing certain types of information. The evidence to be considered in determining whether the traffic in question is market dominant or effectively competitive will include shipping distances, commodity bulk, transport price relative to delivered cost, as well as intermodal, intramodal, and market competition.
- **Proposed Rates above 180% of variable costs.** A prima facie case exists that the traffic in question is market dominant. When challenged, rates in this range may be suspended and investigated. The burden of proof is on the carrier to show that effective competition exists. Rates above 180 percent are not per se illegal. Railroads may establish that there is effective competition by presenting evidence of the sort noted above.

C. Analysis

The proposal substantially reduces the amount of rail traffic subject to maximum rate regulation. A recent study prepared for the ICC indicates that two-thirds of rail traffic has a revenue-to-cost ratio of 1.5 or less, and 82 percent has a ratio of 1.8 or less.[15] This estimate, combined with the studies concerning the proportion of traffic that is market dominant under current procedures, suggests that the new rules will free between 18 and 44 percent of all rail traffic of maximum rate regulation.

1. **Benefits.** The major advantage of the proposed new approach is that it establishes a clear and well-defined threshold that rules out market dominance as an issue for a substantial volume of traffic. This significantly simplifies procedures and avoids costly and complex case-by-case litigation. This provides the ICC with the opportunity to phase out inefficient general freight rate increases and replace them with market determined individual price changes that reflect underlying demand and cost conditions. In addition, freeing a large volume of traffic from maximum rate regulation

encourages the negotiation of binding long-term contracts between railroads and shippers. The present regulations, by contrast, encourage shippers to protest rates rather than negotiate competitive contracts.

2. Problems. On a priori grounds a positive correlation between revenue-to-cost ratios and market power should be expected. However, in practice a major difficulty with the new procedure is likely to be that the ratios are not highly correlated with other indicators of market power.[16] There are several reasons for this. First, the ICC's Rail Form A does not attempt to measure the relevant economic costs—long-run marginal cost. Second, the cost accounting procedures utilized are subject to inherent difficulties.[17]

A third difficulty with using revenue-to-cost ratios arises because the structure of rail rates has been badly distorted through time by excessive regulation. Substantial vestiges of the old value-of-service rate structure remain. As a result, some competitive traffic may have higher revenue-to-cost ratios than does market dominant traffic. Thus, the proposed revenue-to-cost thresholds may misclassify some monopoly traffic as competitive.

The misclassification problem means that traffic over which railroads have considerable market power that falls below the 150 percent threshold will be free of maximum rate regulation and will be subject to price increases.[18] The full consequences of misclassifying are not known with certainty. However, the Federal Trade Commission was sufficiently concerned about the problem to recommend against the adoption of the proposed revenue-to-cost threshold approach.[19]

There are several reasons for believing that the misclassification does not fatally flaw the ICC's market dominance proposal. First, the 150 percent level is the Commission's estimate of fully allocated costs.[20] Most rail carriers have inadequate revenues, several are in bankruptcy, and a number are in danger of failure.[21] The Conrail experience shows that the costs to taxpayers in the form of subsidies to reorganized bankrupt carriers can be enormous. For this reason price increases on monopoly traffic below the 150 percent threshold are not thought to be a serious problem.

A second reason is that monopoly traffic falling below the 160 percent threshold is likely to be traffic that has historically been priced at close to competitive levels. A railroad would be limited in its exercise of market power on this traffic by the 150 percent threshold and the possibility of challenge under the proposed market dominance procedures. Third, some price increases on monopoly traffic below the 150 percent threshold may not be associated with higher prices to consumers or real losses in economic efficiency. Rather, they could simply be transfers of economic rents from shippers to railroads. For example, a steel firm may receive economic rents from its ownership of high grade iron ore deposits. Higher rail rates on iron ore shifts rents from the shipper to the railroad but causes no monopolistic inefficiency in the steel market.

Finally, the misclassification problem should diminish with time. The problem is largely due to distortions in the structure of rail prices and deficiencies in the measurement of relevant costs. The revenue-to-cost ratios should theoretically be a good measure of market power. The greater rate flexibility that the new procedures will promote and more accurate measurement of relevant costs, which the Commission is diligently pursuing,[22] will ameliorate the misclassification problem. Thus, revenue-to-cost ratios should become better indicators of market dominance.

3. Substantive Tests of Market Dominance. The Commission's proposal specifies a number of economic criteria that are to be used in determining market dominance once a rate is challenged. To distinguish these factors from the threshold indicators of market dominance, we refer to them as the substantive tests of market dominance. The Notice mentions the following criteria: commodity bulk, d i s t a n c e travelled, prices and availability of alternative modes or other rail carriers, the relationship between transport cost and delivered price, and the existence of geographic or market competition.[23] The inclusion of this latter type of competition in the proposal is most important. The Canadian experience with rail deregulation reveals that competition in markets in which shippers sell their products is a critical factor constraining rail market power.[24]

The desirability of explicitly specifying bulk, distance travelled, and the relationship of transport cost to delivered price is questionable. These factors have no a priori relationship to market power. At best, they are proxies that may be related to other determinants of market power. The weight to be given them in a market power dominance case is unspecified in the proposed rules. The inclusion of these factors could lead to excessive litigation and to a less than clear economic interpretation of market dominance.

The most serious shortcoming with the proposed substantive tests is that they fail to emphasize the critical significance of long-term substitution possibili-

ties as a determinant of rail market power. Potential competition is not mentioned at all. These factors are highly relevant evidence in any determination of rail monopoly power, and the proposed rules are deficient in that they do not include them.

III. DEMAND SENSITIVE PRICING

The 4-R Act requires the ICC to establish rules promoting rates based on seasonal, regional, and peak-period demand for rail services. According to the Act, the purposes to be served by such rates are to:

a. provide sufficient incentive to shippers to reduce peak-period shipments through rescheduling and advance planning;
b. generate additional revenues for the railroads; and
c. improve:
   (i) the utilization of the national supply of freight cars,
   (ii) the movement of goods by rail,
   (iii) levels of employment by railroads, and
   (iv) the financial stability of the markets served by the railroads.[25]

A. Benefits of Peak/Offpeak Pricing

The rail industry's rate structure is generally characterized by a single-level rate system. This is the case even in markets characterized by wide fluctuations in demand. Shippers in peak periods pay the same rate as those who ship in off-peak periods despite the fact that the fixed costs of providing additional capacity are more properly attributable to peak users. As a consequence, peak-period shippers have no incentive to shift shipments to the off-peak, and railroads invest in capacity that is inefficiently utilized.

A peak/offpeak pricing system induces shippers to either postpone demand or pay for the additional capacity they require. Peak period capacity requirements would be established by those shippers who are either unwilling or unable to defer their demand. Carriers would be encouraged to provide this level of capacity, since the peak rates would compensate them for the additional investments they must make. Lower offpeak rates may attract shippers with deferrable demand as well as new traffic. Peak/offpeak pricing, therefore, provides incentives for attaining the optimal size freight car fleet while at the same time improving its utilization. A more efficient use of rail system capacity should also reduce industry and ultimately consumer costs.

B. Existing Rules

The Commission issued final rules implementing the 4-R Act guidelines or peak/offpeak pricing in early 1977. The regulations define a demand sensitive rate as one proposed for the purposes of influencing seasonal, regional, or peak-period demands for rail services.[26] The rules also specify the standards by which the Commission will judge these rates, detail the kinds of cost evidence that the carriers must submit to justify rates, and require the railroads to file reports indicating whether the rates are accomplishing their intended purpose.

To date, railroads have filed very few demand-sensitive tariffs using the existing procedures.[27] The Commission states that the form and content of its regulations may underlie the rail industry's failure to make extensive use of demand-sensitive tariffs. There are a number of reasons for believing this is the case. First, as the Commission notes,[28] current regulations emphasize the goal of smoothing demand more than the "equally important goals" of improved equipment allocation and increased revenue for the railroads. Second, the current regulations require that the rate change be proposed 30 days in advance. This notice period prevents railroads from responding quickly to changes in market conditions. Third, the normal suspension and investigation procedures apply to these rate proposals. The proponent railroad is, therefore, uncertain about the final decision on the reasonableness of the rate itself. Fourth, the present justification and reporting requirements for the railroads are burdensome and impractical.

C. Proposed Rules

The ICC has recently reopened Ex Parte No. 324 and proposes three fundamental changes affecting demand sensitive rates.[29] The proposals are: a 15 percent surcharge/discount for peak-offpeak periods, an even greater "rate flexibility zone", and partial exemption of traffic contributed by shippers with "abnormal" peak demands. The demand sensitive pricing proposals are less specific and appear somewhat more tentative than the proposed market dominance rules. However, the Commission states that it intends to proceed to issue final regulations following response of interested parties to the Notice of Proposed Rulemaking.[30]

The Commission notes that the usefulness of the demand-sensitive pricing to

carriers will depend to some extent on whether the carriers have market dominance over particular traffic. For traffic where there is no market dominance, the Commission does not regulate the maximum rate level.[31] So the only benefit of the new proposals is the opportunity to change rates on short notice. Where there is market dominance, the surcharge offers both short notice and a no-suspend zone of up to 15 percent. The "rate flexibility" zone would offer an even greater opportunity to change rates. In the case of partial exemptions, maximum rate regulation of traffic with "abnormal" peak demands could be completely eliminated.

D. Analysis

1. **Proposed Equipment Surcharge/Discount (No-Suspend Zone).** The Commission proposes an equipment-based surcharge/discount as a possible mechanism for increasing carriers' abilities to respond to changes in demand. Carriers could be permitted to implement a surcharge or discount of up to 15 percent of the usual commodity rate on short notice (e.g., four working days). These surcharges or discounts would be related to the availability of equipment in a manner to be specified by the Commission. The Commission notes that since a number of different commodities can be transported in the same type of equipment, an equipment orientation is appropriate.[32] Thus if, for example, a carrier's boxcars are in short supply, shippers using those boxcars will be assessed a surcharge based on the commodity tariff.[33] Once the Commission establishes rules governing carriers' use of surcharges or discounts, shippers could protest such rate changes only on the grounds that they exceeded the limitations established by the Commission. Freed of extensive justification and reporting requirements, carriers will be able to respond quickly to changes in demand.

In order that this peak/offpeak pricing proposal achieve its intended goals, carriers will need greater discretion in applying the surcharge/discount than is implied by the Commission's proposal. Inefficiencies may be created if a carrier is required to apply the same surcharge or discount on all of its cars of a particular type regardless of the differing market conditions in the different geographical areas served by the carrier. Carriers should have sufficient flexibility to apply a discount in markets where demand is weak in order to encourage the movement of cars to markets where demand is strong and where it may be appropriate to apply a surcharge.

There are several problem areas with the no-suspend peak/offpeak surcharge/discount. These include the width of the no-suspend zone, the trigger mechanisms controlling its use, and the length of the notice period. These are discussed in turn.

(a) **Width of The Zone:** The Commission proposes a 15 percent no-suspend zone i.e., up to a 15 percent surcharge and 15 percent discount. No single zone can provide the "optimal" flexibility for all commodities because cost and demand conditions for individual commodities (or car types) vary widely. A study reported by the ICC estimates that a 15 percent surcharge is generally sufficient to "deseasonalize" shipper demand for most commodities,[34] if shippers trade off transportation costs with storage costs alone.[35] However, 15 percent may be an inaccurate estimate of the surcharge needed to deseasonalize shipper demand, since shippers respond to other forces in addition to storage costs. Despite this, the proposed limit for surcharges appear reasonable.

On the other hand, the 15 percent limit on discounts proposed in the Notice lacks explicit analytical support. Since the Commission can no longer suspend any rate proposal that contributes to a carrier's "going concern value,"[36] there appears to be little rationale in restricting the discount no-suspend zone to 15 percent. A larger discount zone would simply provide shippers with additional short notice flexibility.

(b) "Trigger" mechanisms: The Commission proposes three possible trigger mechanisms—two quantity-related triggers and a maximum (annual) time limitation.

One quantity trigger would permit rate surcharges to go into effect in response to changes in the level of shippers' demand for cars (car orders). There is a problem, however, with such a trigger because the quantity of rail cars demanded at a point in time is influenced, at least in part, by the price charged to shippers. A surge in demand at the existing price, which triggers a price increase, should dampen over time in response to that price increase. This decrease in the magnitude of the increase in demand will reflect the effectiveness of the price increase, not the disappearance of excess demand (at the lower price). If the Commission were to "detrigger" the rate increase in response to the fallback in the quantity demanded, car orders can be expected to increase again. Thus, demand-related price triggers may result in a series of price changes as the quantity demanded interacts with the price charged.

The second quantity-related trigger suggested by the Commission would be activated by changes in the level of car

loadings. The difficulty with this approach is that carloadings reflect carriers' supply response to shippers' demands. Thus, if rail car supply does not respond to an increase in demand, the surcharge will not be triggered. Normally, supply will not respond without a prior increase in price. Thus, rail carloadings will not be an effective mechanism for relating increases in demand to higher freight rates and will not be a workable trigger mechanism.

The third trigger under consideration by the Commission is a maximum time limitation on the use of the surcharge. A tariff, for example, could be subject to a surcharge no more than a specific number of days each year (the Commission suggests a 45 to 60 day limit.)[37] This trigger mechanism is practical, easily understood, and would give carriers greater freedom to implement rate changes in response to market conditions. The only problem with this approach appears to be that limiting the surcharge to any specific number of days is arbitrary. There is no empirical evidence or **a priori** reason to choose one specific limit over another. However, as a practical matter there must be a limit. Selecting an initial arbitrarily chosen number such as 45 or 60 appears to be a reasonable first cut.

(c) Length of the Notice Period: The current 30-day notice period severely limits railroad flexibility and a much shorter period is warranted. The Commission proposes a notice period of four working days. This number was selected arbitrarily. Evidence from the deregulation of fresh fruits and vegetables has shown that the daily adjustment of rates is quite feasible.[38] This suggests that the proposed 4-day notice may be too long and a shorter period would be more appropriate.

2. **Proposed Rate Flexibility Zone.** The proposed zone would permit individual carriers to file tariffs establishing upper and lower limits to rates. Such proposals would be filed prior to the anticipated time of need and would be subject to the normal notice, suspension, and investigation procedures before becoming effective. Once the Commission approved the tariff, however, the carrier would be able to adjust rates anywhere within the range on short notice. The final regulations will specify whether the carrier will be able to adjust rates freely within the zone or be confined by some type of trigger mechanism as with the surcharge/discount proposal. The rate flexibility zone is intended to permit carriers to make greater percentage changes in demand-sensitive rates than would be permitted with the surcharge/discount.

A major problem with the rate flexibility zone is that the proposed regulation provides no guidance as to the type of evidence needed to justify these rate proposals. The only hint is that carriers might be required to provide special cost studies. Such an approach is similar to existing 4-R Act demand-sensitive pricing regulations and is likely to produce minimal carrier response. Special cost studies are expensive undertakings. Additionally, carriers fear that the information they produce will be used against them in a different proceeding.

An alternative approach that avoids special cost studies appears more likely to accomplish the objectives of the 4-R Act and the rate flexibility zone. Existing data could be used to propose general criteria that encourage railroads to move towards a more efficient rate structure. For example, the Commission now determines maximum reasonable rates for market dominant traffic. Carriers could be permitted to design a peak/offpeak rate structure for a commodity that would be expected to generate on average a rate (average revenue) consistent with the Commission determined "maximum" reasonable rate. The minimum allowable (offpeak) rate might be the Rail Form A variable cost, and the maximum allowable (peak) rate would be the rate (weighted by expected traffic) that when combined with the carrier proposed offpeak rate (weighted by expected traffic) yielded the "maximum" reasonable rate. This approach, while admittedly a rough cut, would nevertheless go far toward generating a more efficient rail rate structure.

3. **Efficient Use of the National Car Fleet.** The demand-sensitive pricing proposals do not address the important issue of promoting the efficient use of the national fleet of rail cars. The proposals are oriented toward promoting efficient pricing of each railroad's services vis-a-vis its own shippers. Existing mandatory car service rules and administered rates for off-line use of cars do not provide the proper economic incentives for railroads to share each other's cars. If one railroad's offpeak-demand time for a particular car type is peak-demand time to another, the railroad system would need fewer cars to provide the same peak service if these railroads had incentives to share their cars. Thus, under the existing rules and procedures each railroad may have an incentive to invest in an overly large (for the system as a whole) stock of cars. To ensure that this does not occur, car service rules should be abolished, and flexibility built into per diem and demurrage charges. Such changes would encourage the efficient use of the national car fleet and would complement the proposed demand-sensitive pricing regulations.

4. Abnormal Peak Demand. The Commission has proposed that shippers with "abnormal" peak demands, such as those entering and leaving a "spot" market on an intermittent basis, might be partially exempted from rate and service regulation.[39] This would be acomplished by effectively deregulating rates and removing service obligations once the shippers' car orders in a production period exceed 175 percent of the shippers' annual moving average.[40]

The costs of providing rail services to shippers that have "abnormal" peak demands may materially exceed the costs of providing comparable service to shippers without "abnormal" peaks. For this reason, partial exemption from regulation may be warranted. The exemption suggested by the Commission would permit railroads to charge higher rates to traffic that impose relatively higher costs. This kind of rail pricing promotes economic efficiency and is therefore, to be encouraged.

It is not clear, however, that partial exemptions for shippers with "abnormal" peaks are always economically efficient. Such exemptions would be appropriate only if a shipper's "abnormal" peak is largely coincident with the system-wide peak demand. There are not likely to be significant costs of the "abnormal" peak demand during off-peak periods for the system as a whole. For this reason the relationship between the "abnormal" peak of an individual shipper and the system-wide peak should be considered in the final rules of exempting shippers with "abnormal" demand from regulation.

The Notice implies that partial exemptions might be restricted to nonmarket dominant traffic.[41] However, such traffic is already free of maximum rate regulation. Moreover, the efficiency rationale of exempting "abnormal" peak demand applies equally to all traffic. For this reason partial exemptions for "abnormal" peak demand should apply irrespective of market dominance. The abuse of railroad market power is not likely to be of consequence. This is the case because most shippers with "abnormal" peak demand are marginal operators who produce on an intermittent basis in competitive product markets. Thus, market competition will protect these shippers from railroad abuse of market power.

IV. CONTRACT RATES

Rail contracts have considerable potential for increasing transport competition, improving the quality of rail service, and efficiently allocating rail resources. This section surveys the potential benefits of contracts and the problems and policies relating to their use.

A. Benefits

Contract rates have the capacity for significantly contributing to the resolution of one of the most vexing rail regulation issues—maximum rates on coal. The 4-R Act requires the ICC to set maximum tariffs on market dominant traffic found to have unreasonably high rates. The enormous surge in oil and gas prices beginning in 1973, has caused the demand for steam coal to increase, and its price elasticity of demand to decrease. The conversion of electricity generating plants from oil and gas is a strategic element in the nation's energy program and is likely to further increase the demand for coal.

In those markets where water transportation is unavailable, the demand for coal transport service by rail closely tracks the demand for coal. Thus, the coal-hauling railroads find themselves in a position in which they could exercise considerable short-run market power over coal shippers.[42] This is particularly true of railroads hauling low-sulfur western coal. Such coal is used principally by electric utilities and travels great distances to market. Most railroads, including the coal-hauling roads, have seriously deficient revenues and several are bankrupt.[43] The ICC is in the difficult position of having to specify maximum coal rates in the context of a rate structure that has been badly distorted through time. The ICC's current approach is the so-called "seven percent solution" enunciated in the San Antonio case[44] and now widely used in coal rate cases. The method is clearly arbitrary, almost certainly inefficient, and widely condemned as inequitable.[45]

Long-term contracts offer a superior approach to the coal rate problem. Before a new generating plant is located and constructed, competition is pervasive and intense. Contracts can take advantage of these competitive forces. The nature of the competition is worth briefly describing. First, coal competes with other energy sources as the basic power-plant fuel. Once coal is selected, the boiler design, coal source, plant location and transportation options are all joint decisions. Before a plant is constructed coal from different mines is easily substituted, Western coal competes with Midwestern coal and even South Africa, Polish and Australian coal. A recent coal procurement negotiation for Florida Power Corporation's new Crystal River generating unit illustrates this point. Five bids were received from Wyoming, three from Colorado, one from Utah, ten from eastern coal fields, four from Australia,

three from Canada, and two from South Africa.[46] The firm decided to ship coal by barge from mines in Illinois, Indiana and Kentucky and transfer it to ocean barges in New Orleans for final movement to Crystal River.

Transportation is a critical component in the utility's decision. In the long-run railroads clearly compete among themselves and with alternate transport modes. The utility has the option of locating the plant at the minemouth and shipping the power by wire, thus, completely displacing coal transport. Moreover, slurry pipelines are an important potential competitor in the long-run.

Electric utilities presently use long-term contracts for the supply of coal. If similar rail contracts were feasible, the utility could jointly negotiate coal supply and rail delivery contracts to minimize long-run costs. Such contracts would take advantage of the latent long-run competitive forces characterizing the coal transportation market. The extensive use of coal contracts would increase competition, promote economic efficiency, yield non-arbitrary prices, and utilize impersonal market forces to resolve the conflicting claims concerning the equity of coal rates.

Aside from the issue of coal, contracts offer a number of more general benefits. Chief among these is the reduction in uncertainty on the part of railroads and shippers alike. Greater certainty permits railroads to more accurately predict demand and thereby contributes to a more efficient and economical supply of railroad services. Contracts facilitate a more efficient utilization of freight cars, reduce costs, and permit better service. Shippers who highly value continuous service will be able to ensure it by negotiating appropriate binding contracts. Shippers who do not highly value service during peak periods, may negotiate interruptible contracts and receive appropriately low contract rates for utilizing offpeak capacity.

B. Problems

There are three principal problems with implementing rail contract rates. The first is legal, Contract rates are neither authorized nor forbidden by statute. Traditionally the ICC has regarded them as per se illegal. They are now regarded as legal, but important questions about their enforceability before the Commission and the Courts exist. A second problem concerns the incentives to negotiate contracts. So long as the ICC maintains tight regulation limiting maximum rates, requires lengthy notice periods for rate changes, and subjects proposed rate changes to litigation and possible suspension, shippers have little incentive to negotiate. The final problem is potentially the most serious. It concerns the relation of contract carriage to the railroads' common carrier obligations. If contracts come into wide use, the problems of cross-subsidization and the allocation of rail resources during peak periods may become most troublesome.

C. ICC Policy

In the last two years, the ICC has made a remarkable reversal in policy relating to rail contract rates. Three Change of Policy statements have been issued in less than 18 months. The first change came in November 1978, and declared that contracts are no longer per se illegal and that they are in fact beneficial in a number of circumstances.[47] Regulations implementing the policy change permit ordinary tariffs filed with the ICC to embody contract rates. The new rules emphasize that railroads performing contract services will not be relieved of their common carrier obligations. The Commission indicated it would review proposed contracts on a case-by-case basis to determine their lawfulness.[48] No guidelines were issued. As a consequence, the circumstances, if any, in which the ICC will set aside a contract or order a railroad to allocate its cars in such a manner that it can not perform its contract obligations are unclear. The enforcement responsibilities of the Commission were left totally unspecified. The second Change of Policy[49] sought to clarify the first, but added nothing new.

The most recent Change of Policy[50] clarifies some of the legal issues surrounding contract rates. Tariffs filed in excess of the contract rate will be presumed to be unreasonable and in violation of the Interstate Commerce Act. The presumption may be rebutted and a rate in excess of the contract approved in "unusual and compelling circumstances."[51] The Commission cites two examples—the failure of the contract rate to contribute to the "going concern value of the railroad" as required by the 4-R Act[52] and a finding that a contract is likely to imperil a carrier's ability to provide essential rail service to the public.[53]

The use of binding contracts in the rail industry is practically non-existent at the present time. To encourage the development and use of contracts, the Commission must further clarify its role in enforcement and the circumstances in which it will approve tariffs that are in excess of the contract rate. Such clarification is essential if railroads and shippers are to have confidence that the con-

tracts they negotiate are actually binding. The Commission has announced[54] that it will shortly embark on a rulemaking in which substantive and procedural requirements for contracts are proposed. Rules defining and clarifying when the Commission may approve a rate different from a valid contract rate will also be proposed. This forthcoming proceeding may be the catalyst for bringing the potential of rail contract rates to fruition.

V. EVALUATION AND CONCLUSION

The ICC's proposed market dominance and demand-sensitive pricing regulations amount to a fundamental reinterpretation of the ratemaking provisions of the 4-R Act. Adoption of the rules along with the latest Change in Policy with respect to contract rates will do much to implement the pro-competitive intent of the 4-R Act and to reduce the sizable social costs associated with excessive rail regulation. The new regulatory initiative, we believe, c o r r e c t l y places greater reliance on free market forces to allocate rail resources and to protect shippers and the public from excessive rail market power.

The new ICC approach to rail regulation is deficient, however, in that it fails to provide for a complementary policy that increases competition among railroads. Economic studies indicate that there is much potential intramodal competition in the rail industry, but it remains largely untapped.[55] In an environment of greater reliance on free markets, promoting intramodal competition is an important means of protecting captive shippers and the public as well as increasing economic efficiency. Such competition serves to reduce rail traffic subject to market dominance and is clearly in the public interest.

The Commission can increase intramodal competition in several ways. As a first priority, the anti-competitive effects of rate bureaus should be substantially reduced. The Commission has ample authority under the 4-R Act and the original Interstate Commerce Act to eliminate the cartel effects of rate bureaus. Intramodal competition could also be increased by encouraging the construction of connector lines from captive plants to the tracks of competing railroads. Use of long-term contracts provides important incentives for the construction of such lines, thereby increasing competition and providing additional protection from rail market power. However, there are artificial impediments to the establishment of such connector lines. An ICC certificate of convenience and necessity is required before a new line can be built. The railroad with an established line to a captive plant may protest on grounds that adequate service exists and that it will be harmed by new competition. If the established railroad has market power, the reward for protesting entry could be sizable. Historically, the Commission has protected railroads from intrusions of others into their territory. However, such protection is inappropriate in an era with greater reliance on rate flexibility and long-term contracts to protect the public. In the new regulatory environment the ICC should not erect artificial barriers to new competition. Indeed, it is appropriate that the Commission take positive steps to encourage such competition.

FOOTNOTES

1 P.L. 94-210.

2 Fritz R. Kahn, "The Railroad Reform Act—A Milestone in Regulatory History," **Traffic World**, 19 April 1976, pp. 80-88.

3 U.S. Congress, Senate Committee on Commerce, Science, and Transportation, **Report** on S. 1946 Rail Transportation Policy Act of 1979, 96th Congress, 1st Session (Washington: U.S. Government Printing Office, 1979) pp. 16-17.

4 49 U.S. § 10709 (a).

5 **Ex Parte No. 320**, Special Procedures for Making Findings of Market Dominance as Required by the Railroad Revitalization and Regulatory Reform Act of 1976, October 1, 1976. The regulations appear at 49 CFR 1109.1.

6 49 CFR 1109.1 (g).

7 See, "Views of U.S. Department of Transportation." April 15, 1976, "Reply Statement of U.S. Department of Transportation, May 10, 1976, "Recommendations of the Attorney General Regarding Standards and Procedures for Making Finance of Market Dominance," April 15, 1976, and September 13, 1976; all filed in **Ex Parte No. 320.**

8 Interstate Commerce Commission, **The Impact of the 4-R Act Railroad Ratemaking Provisions**, October 5, 1977, p. 42.

9 Kearney Management Consultants, **Task 1: Market Dominance Evaluation, Vol. 1: Main Report**, March 1, 1977. III-7 and III-6.

10 The Study utilized a number of criteria including relative prices of railroads and substitute modes, service differences between modes, market share trends by mode, demand stability, extent of intramodal competition, and revenue to variable cost ratios. In terms of short-run shipper alternatives, the study concludes that 10-15 percent of the traffic is market dominant. See, Kearney Management Consultants, **A Study to Perform an In-depth Analysis of Market Dominance and its Relationships to Other Provisions of the 4-R Act**, Interim Report II (April 10, 1979), pp. IV-6-20 and pp. VII-11 and 20.

11 45 FR 3354.

12 A. M. Lago, J. M. McEnroe, and M. J. Ramsdell, **Evaluation of the Rate Flexibility Provisions of the 4-R Act**, Final Report No. RR-182, Prepared for the U.S. Department of Transportation, August 6, 1979, p. S-15.

13 **Ex Parte No. 320 (Sub-No. 1)**, Rail Market Dominance and Related Considerations, 45 FR 3353, January 17, 1980.

14 Once market dominance is established, the issue of the "reasonableness" of the rate remains to be settled. The new rules do not address the issue of the maximum rate ceiling.

15 Kearney Management Consultants, **op. cit.**, p. 3. The study used the one percent way-bill sample of 1977 traffic. The sample was restricted to single line carload movements and excluded COFC/TOFC traffic.

16 Kearney Management Consultants, op. cit. p. V-37-40.

17 For a comprehensive discussion of these deficiencies and a review of the literature relating to them, see, Haskins & Sells: Peat, Marwick, Mitchell & Co. Final Report Project II, Development of an Improved Regulatory Costing Methodology for Common Carriers by Railroad, prepared for the Interstate Commerce Commission, December 5, 1977, pp. VII. 1-VII. 5.

18 Competitive traffic will also be misclassified. However, this is not a serious problem. Such traffic will presumably be judged competitive when the substantive economic criteria are applied in determining market dominance.

19 Comments of the Federal Trade Commission, Ex Parte No. 320 Sub-No. 1, April 2, 1980.

20 45 FR 3355.

21 In a recent proceeding the commission determined that 23 of 36 Class I railroads were not earning a return sufficiently high to be classified as adequate. Thirteen rail firms had returns above 7 percent, which was judged to be the minimum adequate level. Only one firm had a return in excess of the Commission's estimate of the 11 percent cost of capital. See, Ex Parte No. 353 Adequacy of Railroads Revenues (1978 Determination) and Ex Parte No. 363 Adequacy of Railroad Revenues (1979 Determination).

22 The Commission has proposed the creation of a cost center accounting and reporting system that has the potential for significantly improving the measurement of costs, 44 FR 62312.

23 This type of competition occurs when a shipper sells its output in a competitive product market in which some sellers do not pay monopoly transport prices. Should the railroad attempt to force monopoly prices in this situation it runs the risk of losing traffic through shipper relocation, discontinuance of affected products, and possible bankruptcy.

24 T. D. Heaver and James C. Nelson, Railway Pricing Under Commercial Freedom: The Canadian Experience, Center for Transportation Studies, University of British Columbia, (Vancouver: 1977) pp. 150-153.

25 49 U.S.C. 10727.

26 Ex Parte No. 324, Standards and Expeditious Procedures for Establishing Railroad Rates Based on Seasonal, Regional, or Peak-Period demand for Rail Service, January 24, 1977. The rules appear at 49 CFR 1109.10.

27 Railroads have always had the authority, under the general ratemaking provisions of the Interstate Commerce Act (Section 15), to file demand-sensitive rates. Since Ex Parte No. 324, carriers have more frequently filed for such rates under Section 15. This indicates that carriers consider the 4-R Act related procedures too restrictive. For more detail, see Evaluation of the Ratemaking Provisions of the 4-R Act, Final Report No. RR-132, prepared for DOT, August 6, 1979, ch. 4.

28 45 FR 11143.

29 Ex Parte No. 324 (Sub.-No. 1), Standards and Expeditious Procedures for Establishing Railroad Rates Based on Seasonal, Regional, or Peak-Period Demand for Rail Service, 45 FR 11142, February 20, 1980.

30 45 FR 11142.

31 The Commission retains jurisdiction in other areas of rate regulation.

32 45 FR 11143.

33 If car availability were the only congestion cost of peak-period demand, it would be more efficient to charge a uniform (absolute) rate to all shippers for the use of a car. This would properly reflect the car's opportunity cost. However, equipment availability is only one element in the cost of providing rail service. Peak demand periods may also induce shortages in locomotives, labor services, track space, and so on. Therefore, it is probably more efficient to levy, as is proposed, the uniform percentage rate surcharge on the commodity rate, which reflects all the shipping costs.

34 Deseasonalized demand is defined as weekly carloading demand no greater than 1.2 times the average weekly carloading demand. If a number less than 1.2 had been chosen, the surcharge suggested would have been higher than 15 percent. There is no strong reason to believe that 1.2 reflects the correct amount of diverted traffic. Rather than imposing an arbitrary seasonality coefficient, the correct amount of diverted traffic would be that which resulted from the proper allocation of capacity costs. As a result of the improper use of the 1.2 estimate, the 15 percent surcharge lacks the necessary analytical justification. An Evaluation of the Impacts of Section 202 Ratemaking Provisions of the 4-R Act, October 1977.

35 Other factors that might be expected to influence demand, such as expected commodity price fluctuations and the cost of alternative transportation, are ignored.

36 Section 202(b) 4-R Act.

37 The Notice of proposed rule making does not discuss a limitation on the use of the discount. Presumably, carriers will have complete freedom to use the discount.

38 Exempt Rail Transportation of Fresh Fruits and Vegetables Initial Impacts, Manalytics Inc., March 1980, pp. 81.

39 45 FR 11144.

40 The production period is not defined. Whether the period is set as one week, 30 days or some other number is of considerable consequence.

41 45 FR 11444.

42 On this point see, Martin B. Zimmerman, "Rent and Regulation in Unit-Train Rate Determination" Bell Journal of Economics, Vol. 10, Spring 1979, p. 280.

43 See note 21 above.

44 San Antonio, Texas, Acting by Through Its City Public Service Board v. Burlington Northern Inc. et. al., 355 ICC 405 (1976). The San Antonio coal case has actually been before the ICC three times. The matter is now on appeal in the form of a petition to review the Commission's final order.

45 The equity issue has been prominent in both House and Senate Hearings on the problem of coal rates. See Hearings Before the Subcommittee on Surface Transportation, Senate Committee on Commerce, The Railroad Transportation Act of 1979, Coal Transportation Amendment, February 22, 1980. Also see Hearings Before the Subcommittee on Oversight and Investigations, House Committee on Interstate and Foreign Commerce, Coal Rates and Federal Railroad Regulation: Oversight of the Railroad Revitalization and Regulatory Reform Act of 1976, April 16 and 17 1979.

46 Railroads and Regulation: An Imperative Need for Change, A report prepared for the American Association of Railroads by Richard J. Barber Associates, May 1979, pp. 61.

47 Ex Parte No. 358-F, Change of Policy Railroad Contract Rates, November 9, 1978.

48 Ex Parte No. 358-F, Change of Policy, Railroad Contract Rates, November 9, 1978.

49 Ex Parte No. 358-F, Change of Policy Railroad Contract Rates, April 4, 1979.

50 Ex Parte No. 358-F, Change of Policy, Railroad Contract Rates, February 21, 1980. The announcement appears at 45 FR 21719, April 2, 1980.

51 45 FR 21720.

52 The ICC has never defined the meaning of "going concern value of a railroad." It is open to several interpretations.

53 45 FR 21720.

54 45 FR 21720.

55 See for example, Kearney Management Consultants, Interim Report II, op. cit.: pp. V-16 and VII-7-8. Also see, Analysis of the Flow of Freight on the U.S. Rail System for the year 1974, Final Report June 1978, Princeton University ROPO Contract 77-7016. This latter study suggests immense potential for intramodal rail competition. The Kearney study suggests lesser, but still significant potential competition.