Some Impacts of Rail Regulatory Changes on Grain Industries[1]

by

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Perhaps one of the first things that many of us learned about grain marketing is that systems of grain prices, product movement, and plant location are intimately related to transportation rates. Railroads are dominant carriers of grain in many movement corridors, hence, changes in operating environment that affect railroad behavior also affect grain prices, locational advantage, and overall performance of the grain marketing system.

In this paper I will (1) comment briefly on the major changes in regulatory rules pertaining to railroads, (2) discuss evidence of some impacts of these changes on wheat markets in Kansas and (3) hypothesize about additional impacts of changes in railroad regulation on grain marketing.

Changes in operating rules for railroads are associated with the Staggers Act (Oct., 1980). Substantial administrative change in regulation within the existing legislative framework occurred both before and after passage of the Staggers Act but the 1980 legislation constitutes a convenient reference point.

In the pre-Staggers period, railroads operated under special rules regarding entry and exit and control of rates and services. Rules were patterned after common law rules governing common carriage. A major additional feature of operating rules governing railroads was legal authority for collective rate making through the mechanism of the rate bureau. Joint action resulted in serious limitation on individual rate and service adjustments by railroad firms. Individual firms were permitted to act

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independently if they were at odds with their rate bureau but the firm proposing change carried the burden of proof before the Interstate Commerce Commission (ICC). Burden of proof discouraged independent action. Pre-Staggers rail rates adjusted very slowly to changes in transport market conditions.

A second feature of the pre-Staggers environment for railroads was the pervasiveness of operating rules generated by public agencies. Several U.S. industries are described as operating under economic regulation but the nature of that regulation varies from systems of franchised competition, in which market forces provide most of the regulation, to systems in which virtual joint management occurs in nearly every detail of operation. Railroads were in the latter category. Rules, which were alleged to protect shippers or competing carriers, proliferated until railroads couldn't reroute a train around a washed-out bridge without specific ICC approval.

The Staggers Act provided a greater range of autonomous action for individual firms by limiting control over rates and services by rate bureaus and by eliminating many elements of ICC control over daily management functions.

In carrier/shipper relations, important new rules (1) authorized individual shipper/carrier contracts and (2) shifted the burden of proof of "legitimacy" (or lack of) of rate and service rules from the proposing carrier to objecting shippers or carriers. The latter was especially important in disarming the opponents of rate and service change proposals before the ICC. The Commission and the courts have interpreted Staggers in a manner that has further shifted the blend of political and economic control in rail transportation in the direction of independent firm action.

General common carrier obligations that have guided railroad regulation in the past specify carrier duties to (1) serve all who seek service,

(2) serve without discrimination, (3) deliver all goods in the condition in which they are received and (4) assess only fair and reasonable charges for services rendered. Past legislation has provided statutory reinforcement of these concepts. It isn't entirely clear that Congress intended to totally remove this reinforcement but this appears to be the Commission's interpretation.

"Regulations structure the opportunity set and thus shape behavior and consequently performance" [4,p.723]. The number of options available to individual railroad firms in adjusting to transportation markets has been sharply increased, carrier behavior has changed, and so has carrier performance. These changes have, in turn, affected the opportunity set faced by grain marketing and grain processing industries, with consequences that also impact strongly on producers.

Debate over appropriate rules within which transactions take place in transportation markets must consider consequences for both shippers and carriers. It is not a regulation versus deregulation debate but rather a search for that set of operating rules that most nearly fits collective concepts of equity, economic efficiency, and productivity growth. All markets operate within sets of rules that may vary to accomodate unique conditions.

Some consequences of change in Operating Rules:

In winter wheat markets, as in those for other grains, dominant characteristics of the historic pattern of railroad rates and services were stability and the minimizing of shipper competitive advantage from favorable rates or service. The result was a structure of rates that contained a great deal of equalization and one that modified competitive positions very slowly over time, except for the relative position changes

among shippers accompanying percentage changes in rates over broad areas. Service characteristics of rail tariff statements were uniform among competing shippers.

Since the advent of the rules to permit use of contract rates and individual firm pricing, rail rate systems for hard red winter wheat have changed and have become more volatile. Use of trainload shipments and accompanying rates has evolved more slowly in the Southern Plains than in some other areas but is picking up momentum.

At Kansas State University, we have studied patterns of rail rate changes for wheat movement, along with associated price spreads, to determine characteristics and impacts of changes. Specific objectives of this analysis were to determine (1) the nature of railroad rate changes occurring before and after Staggers, (2) the effects of rate changes on margins available to marketing firms, (3) the impact of rate changes on prices paid to farmers and (4) the effects of rate changes on competitive positions of alternative marketing channels.

In this analysis, rail rates and price spreads were determined between each of 14 local elevators in scattered locations in Kansas and Gulf export ports and between the same 14 locations and Kansas City. Analysis covers the period from January, 1977 through June, 1983. Wheat prices bid to farmers at local elevators were obtained for each Wednesday throughout the period. Terminal or export prices are cash or to-arrive prices as appropriate for a uniform quality of wheat offered at those points on the same day.

Analyses of the data indicates the following:[1]

(1) Pre-Staggers rate changes largely reflected percentage increases in tariff rates. From 1977 through 1980, nominal rates both to Kansas

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[1] McQueen, Edward V., Analysis of Intermarket Price Spreads for Kansas Wheat, 1977-83, M.S. Thesis, Kansas State University, 1984.

City and the Gulf increased by 64 percent, with only slight differences among areas of the state. When rate increases were deflated by the index of prices paid by farmers for all production inputs, rail rates increased by approximately 10 percent during the three year period (Table 1). Increases did not lag inflation as frequently charged.

(2) In the pre-Staggers period, rates were for single-car shipments and transit was permitted for Gulf or Eastern movement over major inland terminal markets. In the post-Staggers period, the effective rates were largely for multiple car shipments of various configurations, in some cases with reduced routing and in-transit stops available to the shipper.

(3) After 1980, railroad rates generally declined but in a very erratic pattern by location. Average nominal rates for shipment to the Gulf declined by 35 percent from first quarter (Q1), 1981 through second quarter (Q2), 1983. When deflated by prices paid by farmers, rates to the Gulf decreased by an average of 43 percent over the same period, with a range among areas of the state from 34.9 to 45.6 percent. Average nominal rates from 14 Kansas local points to Kansas City decreased by 26 percent between Q1, 1981 and Q2, 1983. Deflated rates to Kansas City in Q2, 1983 were 32 percent below those of Q1, 1981.

Table 1. Percentage Changes in Gulf Export and Kansas City Rail Rates for Wheat from Selected Kansas Local Elevators, Quarterly Averages for Two Selected Periods.

Destination	Q1, 1977 through Q4, 1980	Q1, 1981 through Q2, 1983
	%	%
Gulf Export:		
Nominal Rate	+64	-35
Deflated Rate	+10	-43
Kansas City:		
Nominal Rate	+64	-26
Deflated Rate	+10	-32

*Rates deflated by the index of prices paid for all farm inputs.

(4) Rate reductions from Q1, 1981 were not uniform among regions in Kansas or among locations within regions. Relative positions of Kansas local elevators in pricing wheat for export changed significantly from Q1, 1981 through Q2, 1983. Smaller rail rate reductions were especially noted in the Southwest area of the state.

(5) Average merchandising and handling margins (price spreads less transport costs) available in sale of wheat for Gulf export were generally smaller after Q2, 1981 than before Q1, 1981 and they demonstrated greater variability. The first half of 1981 was omitted from the comparison because it was a highly unstable period. In some locations, available margins in the export market were sharply reduced.

(6) After 1980, firms in previous transition areas between the Gulf and Kansas City markets could generally initiate greater total market margin by direct shipment to the Gulf than by sale at Kansas City.

(7) Maximum available margins from some locations required trucking to points where contract rates to the Gulf were in force.

(8) Low Gulf margins occasionally were offset by available domestic market margins, as represented by Kansas City prices for comparable qualities of wheat. However, when stress on Gulf margins occurred for individual local elevators, similar stress occurred on available margins between the local firm and the Kansas City cash market.

(9) Maximum total margin available in the market from the best choices of destination and transportation was lower for all elevators combined after Q2, 1981 than before Q1, 1981. In individual cases, margins were lower by as much as 10 cents per bushel. Eight individual elevators had statistically significant change in margin. One of the eight had increased available margin and seven had lower available margin.

I interpret these results as follows:

1. A significant major decrease occurred in railroad rates on wheat from Kansas origins beginning in the first quarter of 1981. A number of conditions contributed to reduced rates.

Changes in supply/demand relationships in freight transportation markets occurred. Grain exports declined. Rail cars and barges for carrying grain have been in surplus since Spring, 1981 due to a slowing of traffic demand and significant additions to the rail car fleet in 1979 and 1980.

Competitive conditions in Kansas transportation markets also contributed to rate reductions. Reduced use of transit from inland terminals to the Gulf strengthened the role of trucks in movements to Kansas City. Competitive rail rate reduction on Kansas City inbound traffic occurred in early 1981. Rail rate changes throughout the post-Staggers period appear to reflect a struggle for market shares among competing railroads. Significantly, this competition is now reflected in rate changes much more extensively than it would have been under the previous rate bureau/ICC approval system. Angry words expressed at rate bureau committee meetings were of little benefit to shippers.

Also significant to the reported reductions is the fact that, previous to 1981, railroad rates from Kansas origins were high relative to railroad costs, providing opportunity for railroads to reduce rates and still stay well within a rational pricing range [5]. The important overall result is that railroad rates and services have responded to a market environment much more quickly than in the pre-Staggers period.

2. Innovations in rate making, also related to competitive circumstances, have reduced transport costs sharply from some locations. At times, local elevators competing for grain in territories served by elevators with contract rates were able to buy wheat with a positive margin only if they trucked wheat to specific inland shipping points where shipper/carrier

exclusive contracts were in force. Selective rate making under specific contract has thus contributed to change in flows of grain and change in mode of transportation for originating grain and in some cases, changes in mode combinations for movement of grain.

3. Reduced transportation rates, regardless of why they have occurred, have been reflected in reduced inter-market price spreads. Indications in other studies [2, 6] of a very high level of pricing efficiency in grain markets have been reinforced by evidence of market performance in Kansas wheat markets, especially in the very unsettled period in 1981. The portion of transport rate reduction that accrues to producers through increase in prices was not determined, but it is likely that a significant increase in producer prices occurred.

4. Changes in available market margin between local bid and Kansas City or between local bid and direct export strongly suggest shifts in marketing movement from Kansas origins away from the traditional market at Kansas City toward more direct movement to export ports. Kansas City may or may not be representative of other inland terminals.

5. The post-Staggers period has provided very difficult adjustments for some local elevators. Marketing channels and marketing options have changed drastically. Figure 1 illustrates local/Gulf rail tariff rates and local/Gulf spreads in prices between farm bid for local delivery and Gulf bid for to-arrive No.1, hard red winter wheat of ordinary protein. Transportation rates in both cases are railroad tariff rates to the Gulf. The area between the market spread and the rail transport rate represents marketing margins available for all merchandisers and handlers between the farmer and the to-arrive purchaser for export movement at the Gulf.

For Elevator A, export margins remained relatively stable both during the period of increasing freight rates and during the period of freight

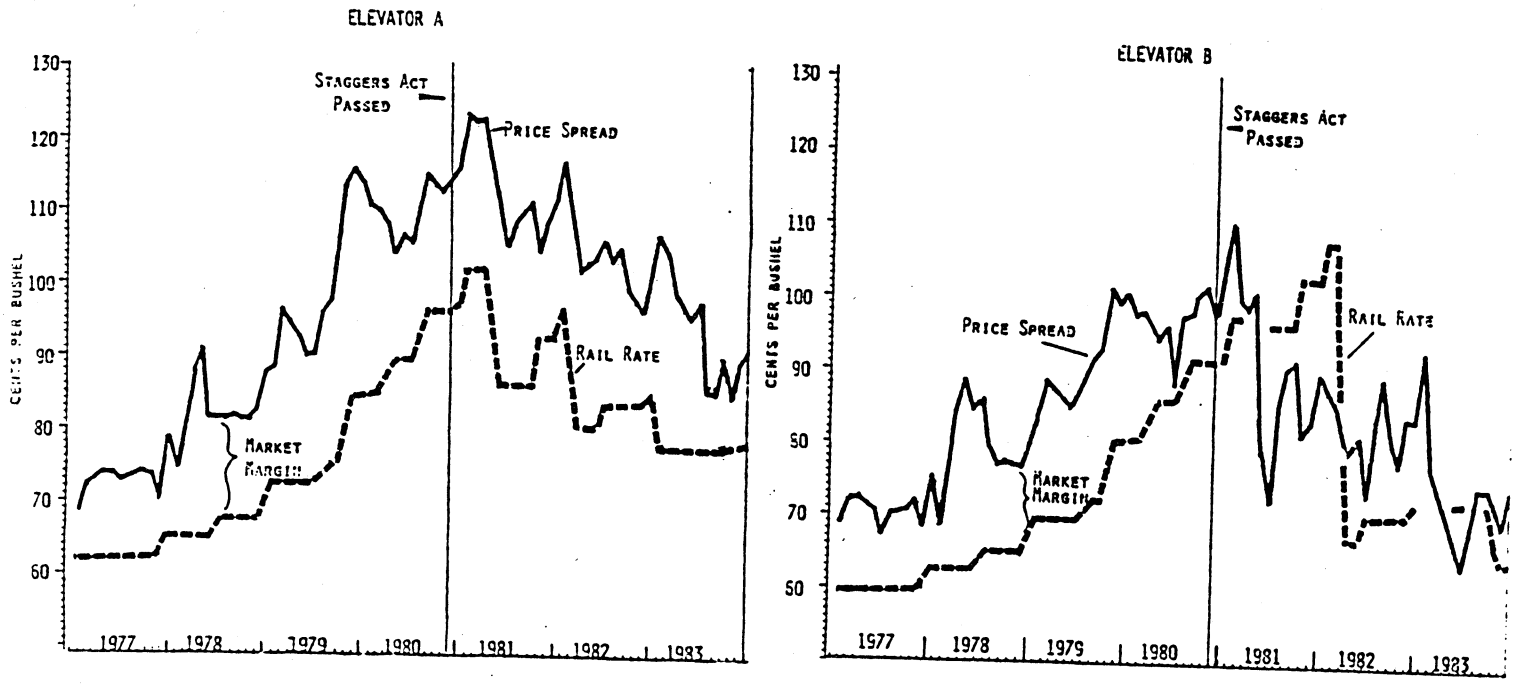

Figure 1. Local Elevator to Gulf Price Spread and Rail Rate.

rate decrease in 1981 through 1983. Major stress on marketing margins did not occur.

Elevator B had a different situation. The elevator is located near a point where geographic price relationships were sharply changed by contract rates to the Gulf at a nearby location. The Gulf rail market at tariff rates was obviously not a market in which the elevator could earn a return on its services in 1981. Price relationships also suggest that the situation was no better at Kansas City. The best the elevator was able to do to minimize losses was to truck grain to the firm with the contract rate. Total margin in the market by that route was very small but a positive margin existed. In 1982, price relationships restored the local/Gulf spread to a more normal relationship largely through reduced rail tariff rates. But, a negative margin was again faced in first half, 1983.

There has been understandable distress for this firm that would appear to have resulted directly from the change in rules governing railroad performance. It is not unlikely that many elevators and elevator facilities have found themselves in similar circumstances in the past three and one-half years.

Grain industries have demonstrated versatility and robustness in adjusting to changed circumstances. If changes in rate patterns reflect delayed adjustments to economic forces occurring prior to (or since) 1980, the adjustments were past due and necessary. However, it is difficult for managers of long-term, single-purpose facilities to adjust where market positions change abruptly, as in the case of elevator B, and no clear evidence of the cause of change presents itself. "Adjust or perish" is a stern admonition to the investors in elevator B, if their market position is a result of railroad pricing strategy and unrelated to economic forces except the competitive stance in which carriers find themselves, especially when information on the rate consequences for competitive shippers of that strategy is withheld.

Hypothesized further impacts:

A good deal of conventional wisdom has been expressed about general rail deregulation impacts on grain industries. What follows is my own brand of conventional wisdom expressed as propositions in need of testing. My list of hypotheses includes the following:

Decreased prescription of operating rules for railroads has contributed importantly to operating efficiencies. With competition in the rail system, increased rail productivity will result in lower transport rates, both in times of surplus transport capacity and in times of tightness in equipment supply.

·Instability in rail rates introduces new risk and uncertainty for many grain shippers and merchandisers. Although the data we have examined do not indicate higher post-Staggers market margins, added risk must have its compensation. Instability will, therefore, exert pressure to expand margins over comparable situations with more rate stability. Instability may be reduced through properly drawn contracts. However, observations suggest an advantage for larger firms in establishing grain contracts. Small firms may not find contracts an available means of escaping instability.

·Contracting ability will continue to provide large grain shippers with a significant advantage over smaller shippers. Independent local elevators will find it increasingly difficult to compete in transportation markets. Movement on rail line segments not serving trainload shipping points will be further reduced leading to more branchline abandonment, at least in the Great Plains.

·Smaller shippers will increasingly become integrated into larger firms to gain access to rail transportation at competitive rates. The form that integration will take could be either vertical or horizontal, depending upon individual circumstances. In vertically integrated co-operative systems, regional cooperatives will lose grain originated by local cooperatives if competitive rates through regional facilities are not maintained. Local cooperatives are in no better position to negotiate favorable rail rates than any other small shipper.

·The competitive posture of railroad firms resulting in switching restrictions and joint rate conditions that inhibit interline movement has substantially reduced market flexibility for grain shippers. For many shippers, the markets they can serve with assurance of rail service are limited to points on the lines of the railroad on which they ship.

This will create encouragement by shippers for consolidation of rail systems to provide a larger market area.

Consolidation efforts by carriers will continue as individual systems seek to extend the territory served on their own lines. Consolidations may also reduce the degree of competition in the railroad system and may reduce service to local areas where competing services are consolidated.

Summary:

"No aspect of marketing is so knotty as setting forth the criteria for evaluating the present marketing system and changes that are proposed in the future" [1, p.18].

Criteria for evaluating the effects of change on markets include changes in economic efficiency, impacts on economic structure, fairness to participants, changes in level of risk and uncertainty, and others. Impacts in each of these areas are identified. I am not able to judge for you the dominance of evidence or the weights you may place on various impacts. I will summarize my views. Your weighting may be different than mine.

Strong evidence seems to point to important cost reductions in grain logistics systems without significant reduction in grain pricing efficiency. Carrier rate reductions from logistics system efficiencies appear to accrue to grain producers and consumers in competitive markets. Price benefits to farmers have surely been substantial up to this time.

At the same time as efficiencies are noted, however, movement restrictions with negative impacts on efficient marketing occur in cancellation of joint rates and imposition of switching restrictions that limit the ability of merchandisers to reach certain markets. Perhaps when weighed

against the apparent social advantages of competing railroads, however, the increased marketing cost of restricted market area for merchandisers is the lesser evil. Perhaps there is a compromise. A search for rules that will permit freer inter-carrier transfer of freight without serious impairment to competitive behavior of rail carriers should continue..

Tendencies toward greater concentrations of market shares are perceived both in grain industries and in the railroad industry. If that occurs, distribution of efficiency benefits may be restricted. Our analysis of pricing behavior, both in grain and transportation markets, suggests highly competitive behavior. However, further consolidation in either industry, especially railroads, could produce other results.

My value framework identifies concerns of fairness to small shippers. Lack of access to information about transportation has severely handicapped small shippers in some instances. The concealing of information about contract rates has frustrated small shippers in their efforts to identify appropriate short and long-run strategies in a dynamic marketing environment. Many rate changes, especially short-notice changes have created difficulties for merchandisers. Contract disclosure also permits quicker identification of discriminatory practices if they exist. A characteristic of information is that you can't appraise its usefulness in advance of acquiring it.

Significant change and experimentation have occurred in grain marketing since passage of the Staggers Act. Change and experimentation will continue for some time to come.

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