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## *Agricultural Transportation Challenges for the 21<sup>st</sup> Century*

# **Intramodal Competition in the U.S. Rail Industry**

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### **Issue**

The U.S. rail industry now has only 8 Class I railroads, down from 32 Class I railroads in 1982. In fact, with the acquisition of Conrail by Norfolk Southern Railroad (NS) and CSX Transportation, four railroads now account for the bulk of Class I traffic in the United States; NS and CSX in the eastern United States, Burlington Northern Santa Fe Railway and Union Pacific Railroad in the western United States. As a result, many grain-shipping locations now have access to only one or two railroads. An important long-term issue for agricultural shippers is the extent of intramodal competition that will prevail in the duopoly markets that have been created by mergers. Because the conduct of any two firms in a market can range from highly rivalrous to collusive, the long-term pricing and service practices of railroads in the U.S. are certain to be subject to increasing scrutiny and oversight.

### **Background**

Agricultural shippers believe that railroad market power has increased due to the increased concentration in the industry. In recent years several mergers have occurred that have eliminated important grain-hauling railroads. For instance, in 1995, the Union Pacific Railroad acquired the Chicago & North Western Transportation Company, and in 1996, the Burlington Northern Railroad merged with the Atchison, Topeka and Santa Fe Railway and the Union Pacific merged with the Southern Pacific. Within the last few months, the proposed acquisition of Conrail by the CSX and Norfolk Southern Railroads was approved by the Surface Transportation Board (STB).

However, these nationwide statistics can mask increases in railroad concentration in more narrowly defined geographic areas that are relevant to specific agricultural shippers and receivers. What matters a great deal more is the number of competing railroads to which shippers or receivers have access at their shipping or receiving points. If changes in railroad concentration are examined for the sub-State regions of crop reporting districts, a more relevant indicator of changing rail concentration is obtained. More specifically, whereas 58 crop reporting districts in the top 20 grain-producing States were served by fewer than 3 railroads in 1992, 87 crop reporting districts in these States were served by fewer than 3 railroads in 1996.

The increasing concentration in the U.S. rail industry worries agricultural shippers because as the

number of rail competitors in any market decreases, the prices charged by the remaining firms tend to increase. These effects of increasing concentration are found most acutely when the number of competitors in a market decreases to just one or two firms. Moreover, even when a second or third railroad is present in a market, that railroad is likely to be a short line or regional railroad. These smaller railroads, which must typically rely on the Class I carriers for car supply and interchange, cannot compete effectively with the Class I carriers. In fact, the role of the short line is better thought of as providing competition to trucking firms.

A landmark study of the relationship between railroad concentration and pricing power in grain transportation markets was done by MacDonald, who found that as the number of intramodal competitors or the intensity of intermodal competition increased, the prices railroads could charge decreased (see information sources). More specifically, he found that moving from a railroad monopoly to a duopoly at a corn-shipping point located 75 miles from water competition reduced rates by 17.4 percent. Moving from two to three railroads at corn-shipping points reduced railroad rates another 15.2 percent. Similar results were observed for wheat markets. Moreover, the farther the shipping points were from a navigable waterway, the greater the effect on rates as additional railroads entered the market.

In general, the competitive pressures faced by railroads in grain transportation markets depend on the distance of the movement and the specific origin and destination. When shipping origins are close to a navigable waterway, barges provide intense competition to railroads and railroad pricing is close to cost. Similarly, when the distance of the shipment is relatively short and markets are close, railroads can face significant competitive pressure from trucks. But for those areas where intermodal competition is relatively weak, intramodal competition (rail vs. rail) determines prevailing railroad rates. This is why increased rail concentration is particularly nettlesome for those shippers beyond effective trucking distance from markets or navigable waterways

However, even though railroad prices rise with concentration, grain shippers may be even more concerned with the level of service they receive. When the demand for railroad transportation services exceeds what can be supplied by railroads in the short term, railroads tend to serve those customers with competitive alternatives rather than those shippers captive to rail.<sup>1</sup> Thus, those shippers without competitive alternatives not only pay the highest rates, but also receive the worst service.

Many industry observers believe that additional mergers will form one or two transcontinental rail systems. However, the well-publicized problems of the Union Pacific/Southern Pacific merger may have delayed this prospect. In any event, because a merger of an eastern and western railroad would not eliminate parallel competitors, the effect of such a consolidation on agricultural

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<sup>1</sup> The USDA referred to service discrimination against agricultural shippers by western railroads in its comments in Ex Parte 573 Rail Service in the Western United States, on December 1, 1998, indicating that “agricultural shippers seem to be disproportionately affected by UP/SP service problems,” and that “both major western railroads are letting agricultural shippers bear the brunt of service recovery in the West.”

shippers would likely be smaller than the effect from the mergers of the western carriers that have already taken place.

### **Implications**

One of the future transportation issues for U.S. agriculture will probably not be mergers of already large railroads, but rather the performance of railroads in markets in which they lack intramodal or intermodal competition. Of great importance is how aggressively railroads compete on price and service when there are only two firms in a market and where intermodal competition is not present. That is, will they compete aggressively on the basis of price and improved service offerings much like markets with more participants, or will they fail to compete aggressively, increasing their prices and letting the quality of their service deteriorate? The possibility of the exercise of railroad market power in grain transportation markets will require an increased monitoring of railroad pricing and service to agricultural shippers on a disaggregated basis.

### **Information Sources**

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