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A Modal Share Analysis



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Transportation of U.S. Grains

A Modal Share Analysis

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Abstract

The analysis of movements of grain by mode of transport provides important information about changes in the competitiveness and relative efficiencies between the modes. The goal of this analysis was to estimate the tonnages of grain railed, barged, and trucked using secondary data sources. The types of grains identified were corn, wheat, soybeans, sorghum, barley and rye, and oats. The types of movements identified were those to domestic markets and those to ports for export.

Key words: Grain transportation, grain movements, modal shares

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Summary

The analysis of movements of grain by rail, barge, and truck provides important information about changes in the competitiveness and relative efficiencies between the modes. It can also provide a framework to assess public policies that affect the development and success of the Nation's transportation infrastructure.

The amount of grain moved in the United States increased significantly from 1978 to 1989. During this period, significant changes occurred among the types of grain moved and the volumes shipped to domestic and export markets.

Trends in movements and modal shares are strongly influenced by the corn, wheat, and soybean crops. These three crops accounted for 90 percent of all grain movement during the 1978-89 period. Movements reached a record total of 346.1 million tons by 1988, up 43 percent from 241.8 million tons in 1978. Nearly all of this growth resulted from a large increase in domestic grain movement, up 80 percent from 1978. Export movements peaked in 1981 at 144 million tons and bottomed in 1986 at just under 87 million tons.

Despite significant changes during the 1978-89 period, modal shares for all grain ended the period in 1989 very much the same as they began it in 1978. Railroads remain the predominant mode of grain transportation in the United States. While all modes increased tonnages, rail and barge shares decreased and truck share increased through 1988. The rail share of export grain movements remained relatively constant to slightly lower during the 1984-89 period. In the domestic market, rail share tended to decrease through 1988 then increased sharply in 1989. The barge share of export movements remained relatively flat during the 1984-89 period. The barge share of domestic grain traffic decreased slightly from 1984 to 1989. The truck share of export movements decreased from 1984 to 1988, and increased in 1989. The truck share of domestic movements increased from 1984 to 1988, and decreased in 1989.

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