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### Title

Robert W. Fogel, *The Argument for Wagons and Canals*, 1964. *CSISS Classics*

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### Author

Corbett, John

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## Robert W. Fogel: The Argument for Wagons and Canals, 1964. By John Corbett

### *Background*

Robert W. Fogel (born 1926) is best known as the leading proponent of revisionistic economic analysis of some of the most cherished assumptions of American history. Dubbing his technique "cliometrics," Fogel introduced cost/benefit analysis, depreciation, and value added considerations into the area of historical study. In 1964, in his book *Railroads and American Economic Growth*, Fogel attacked the commonly-held notion that the development of the railroad network was a turning point in the economic development of the United States. A decade later, Fogel raised a storm of controversy with his book *Time On The Cross: The Economics of American Negro Slavery*, in which he concluded that slavery was a far more profitable economic institution than had been previously thought. Various holding professorships at the University of Chicago and Harvard University, Fogel has been President of the Economic History Association and of the Social Science History Association. In 1993 Fogel belatedly received the Nobel Prize in Economics for his studies in railroads and slavery.



### *Innovation*

What would the United States have been like without the vast network of railroads built from sea to shining sea during the middle of the nineteenth century? Most historians shuddered at the thought. After all, it was the railroad that opened the vast breadbasket of the Midwest, the railroad that tied the continent together, and the railroad that spurred the spectacular growth of the American economy. Or was it?

Robert Fogel believed that much of the praise heaped on the economic contributions of the railroad were little more than overblown rhetoric, and he set

out to prove it. In his 1964 book, *Railroads and American Economic Growth*, Fogel examined the American economy for the year 1890 from two different vantage points. The first looked at the economy, specifically agricultural transports of the key staple commodities of wheat, corn, pork, and beef, as it actually existed in 1890. The second assumed that, all else being equal, railroads had never been invented, and that the 1890 economy was faced with alternate modes of transport, such as canals and the traditional horse-drawn wagon. The difference between the costs of transport in these two scenarios, or rather the amount of money the railroads actually saved, was termed the "social savings."

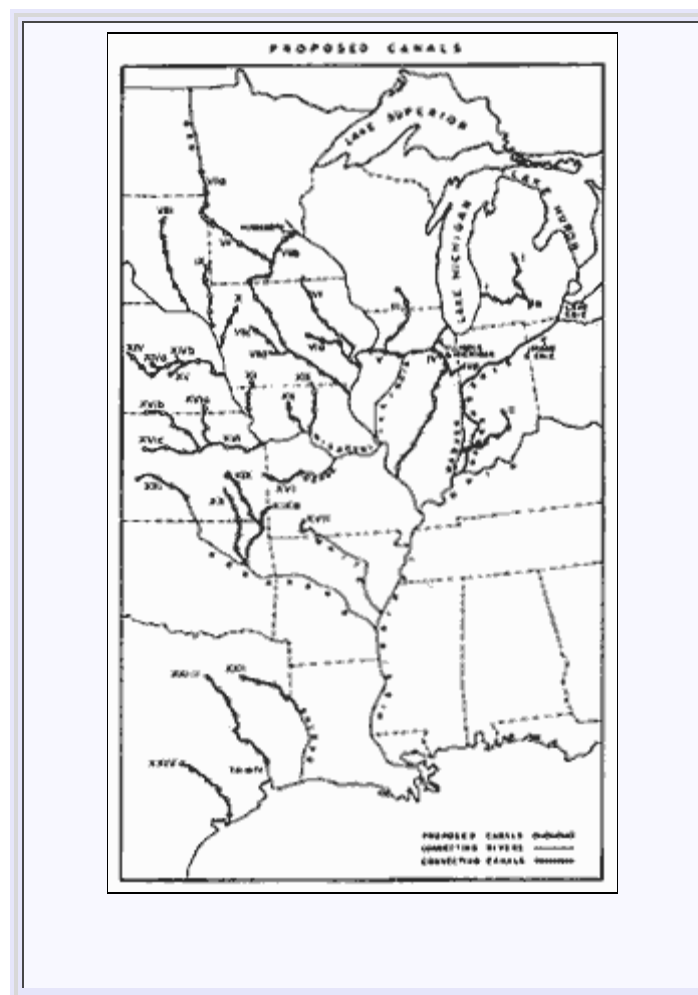
Fogel divided the American agricultural geography into primary and secondary markets. Primary markets like Chicago or St. Louis were those that collected surplus commodities from individual farms of the Midwest and shipped them to secondary markets such as New York or Baltimore. Secondary markets, in turn, were those areas which collected commodities from primary markets and distributed them to the countless communities in the East and the South, which had agricultural deficits. In addition, trade between farms and primary markets was termed "intra-regional distribution," and that between primary and secondary markets "inter-regional distribution." Fogel concluded that the social savings from inter-regional railroad transport was far less than had been assumed—less than one percent of the economy as a whole—even including factors such as frozen canals in winter and the circuitous route of many waterways. It was in the area of intra-regional distribution that Fogel found the greatest advantage for the railroad.

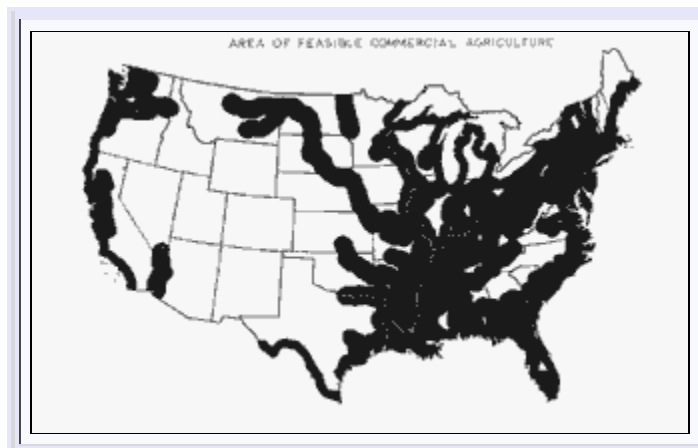
Had the railroads not been invented, shipments would have taken place via canals, rivers, and wagons. Wagons being expensive and inefficient, they would have been useful only for short hauls to rivers or canals. Fogel concluded that the costs of wagon transport would have made agriculture economically feasible no more than roughly forty miles from any navigable waterway. Based on the system of canals in 1890, both in use and previously abandoned, Fogel was able to include 76 percent of all contemporary agricultural land within forty-mile buffer zones adjacent to the system of waterways. Nearly all of the agricultural land that fell outside the buffer zones, and hence would have been lost to the economy, were concentrated in the four states of Illinois, Iowa, Nebraska, and Kansas, meaning that the railroad's impact was felt most in the intra-regional trade between farms in those states and the great primary markets of the Midwest.

Yet, even here, Fogel believed the railroad's advantage was illusory. He advanced the idea that, in the absence of the railroad, the modern combustion engine (i.e., cars and trucks) likely would have been developed much more rapidly and could have replaced the horse-drawn wagon decades before the

end of the nineteenth century. If nothing else, at least rural roads might have been improved sooner. Perhaps the most compelling idea was that with a moderate expansion of the canal system into Illinois, Iowa, Nebraska, and Kansas, in combination with reduced trucking rates, an expanded eighty-mile buffer zone around the increased waterway network could have included all but four percent of the agricultural areas actually in use in 1890.

Fogle illustrates how the interpretation of economic history is enhanced through a spatial perspective. He uses distance buffers to represent ease of transport and to assess the likely impacts of regional economic expansion associated with different scenarios of change in transport technology.





*Publications*

*Time on the Cross: The Economics of American Negro Slavery.* Boston: Little, Brown, 1974.

*The Union Pacific Railroad: A Case in Premature Enterprise.* Baltimore: Johns Hopkins, 1960.

*The Reinterpretation of American Economic History.* New York: Harper & Row, 1971.

*Without Consent or Contract: The Rise and Fall of American Slavery.* New York: W. W. Norton 1989.

*Related Works*

Holmes, Thomas J. and James A. Schmitz, Jr. Competition at work: Railroads vs. monopoly in the U.S. shipping industry. *Federal Reserve Bank of Minneapolis Quarterly Review*, 25: 3-29, 2001.

*Links*

[The Cliometric Society](#)