

Engines of Productivity Growth: Railroads, Reallocation, and the Rise of American Manufacturing

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Spring 2017

Rise of American Manufacturing

Over the 19th century, US becomes a manufacturing power

- Manufacturing grows from 5% to 20% of US production
- Manufacturing becomes comparable to agriculture (from 12%)
- US begins pushing technological frontier

Many reasons (Geography, Institutions, Culture...)

Aspects that might be more uniquely American?

- Large domestic market, increasingly connected
- Land and commodity resources, exploited and integrated

Railroads and American Economic Growth

Were railroads indeed “indispensable”?

- Fogel argued not (social savings, sectoral spillovers)
- Competing views (technological growth)

Impacts on agriculture

- Fogel: social savings
- Donaldson and Hornbeck: land value and market access

Impacts on manufacturing

- Railroad consumption: iron and steel
- Railroad operation: management, accounting, time zones
- Railroad connectedness: allocation, innovation

Research Questions

1. Railroads as an engine of US manufacturing growth?
2. How does market integration drive productivity growth?
 - Technical efficiency (innovation incentives and market size)
 - Reallocative efficiency (inputs to marginally productive places)

Presentation Outline

1. Measuring changes in market integration (RHS)
 - Mapping transportation routes
 - Definition of “market access”
 - Mapping changes in market access
2. Measuring changes in manufacturing productivity (LHS)
 - Census of Manufacturers
 - Decomposing aggregate productivity growth
 - Relating measured productivity and market access
3. Preliminary results