RAILROADS AND ECONOMICS GROWTH
Railroads and Economics Growth

- Railroads followed steamboats and canals for lowering transportation costs
  - 1830 30 miles
  - By 1839 3000 miles of track (mostly passenger rail between major cities)
  - 1850 9000 miles
  - 1860 30,000 miles
  - 1915 291,231 miles

- Building very pro-cyclical: 1865-73, 1878-83, 1885-87
Mileage not sole indicator

1. Civil War freight car carried max of 12 tons
2. WWI freight car carried 70 tons
3. Locomotive in Civil War could pull 25 cars
4. Locomotive by WWI could pull up to 100 cars
Why these advances?

- 1. stronger rails
- 2. stronger wheels and axles
- 3. better and safer boilers
- 4. “Westinghouse” brake
- 5. specialized rolling stock – refrigerated cars, cattle cars, grain cars, Pullman luxury cars...
Benefits of Railroads over canal/river network

- 1. Enabled regional specialization
- 2. Rail routes more direct than rivers
- 3. Open all year
- 4. Faster
- 5. Safer
- 6. Reduced loading and unloading

Were Railroads indispensable for economic growth?
Concept of social saving:

- What was the addition to GNP from having the railroad instead of next best alternative, wagons, rivers, canals and bigger inventories?

- **1. Looking at only rates canals were cheaper but canals**
  - i. slower
  - ii. more damage – inferred from insurance
  - iii. waterways froze

- **2. Railroads saved most from the alternative of wagon rates**

- **Overall result:** in 1890 our total GNP was 7% larger than it would have been without railroads
Caveats:

- 1. only looked at major ag commodities — ignored fresh fruit and vegetables and their impact on health
- 2. specialization could not have been as great
- 3. ignored passenger component — consumption and production
- 4. migration much easier because of lower cost of possible return
Is social savings the best way to look at railroad benefits?

- Social rate of return was in the range of 15%
  - Railroad consumed 1/8 of total capital
  - Was there an alternative investment that could have absorbed that amount of capital with that rate of return?
  - Convergence of Prices

- Bottom line still correct:
  - We would have had economic growth in the absence of the railroad
Were railroads were built ahead of demand?

- Probably not, though as people expected the railroad to come they moved ahead of the railroads.
- All major rail lines were profitable.
- Concept of railroad making a location viable lead to subsidies:
  - local, state and finally federal for the transcontinental railroad.
Federal Government Aid

- 1862 Congress chartered
  - Union Pacific to go from Nebraska West
  - Central Pacific to go from California East

- Land Grants: 130 million acres in checkerboard to railroad companies

- Corruption associated with railroads
  - Credit Mobilier scandal of 1873 was a tightly held building company composed of railroad magnates. Union Pacific paid Credit Mobilier to build r.r. – inflated costs. Instead of profits going to shareholders the profits went to Credit Mobilier.
Alternative Methods of Government Finance

1. Government could build the road and then sell to private party – at loss if necessary
   - Problem: government management might not be as cost-effective
2. Government could have guaranteed a rate of return; incentive to inflate costs.
3. Government could have offered loans: in 1860 no probable takers.