

- 1851 - US is still behind Britain in gun production
- US had a system of "interchangeable parts"
 - US imported British technology
- large increase in patenting rates from 1790s to 1860s.

Why New England?

Goldin-Sokoloff

- 2 goods - agric. and manufacturing
- 2 factors - men and women
- 2 regions - North and South
 - trade in goods but not people (no migration)
 - free labor in the North does not want to go to the South. Migration was westward

(*) North-South migration flows.

In the beginning, everyone is in agriculture.

- North - relatively lower earnings of women to men

$\frac{w_{women}}{w_{men}}$	NE	Midwest	South
1815		0.288	really low, because most production was grain production, which required physical strength
1820	0.303	0.371	
1832	0.411	0.421	
1850	0.524	0.437	0.57-0.76 derived largely from slave rental rates

Which women are working in NE?

- young, unmarried women

To start industrialization, need some sort of shocks:

- Trade embargo 1807-1815

- gives tariffs

- Building of Erie canal leads to cheap grain from the Midwest.

Skilled slave labor (artisans)

- used these artisan jobs as sort of a reward for good work in younger years.

% women in mfg

all ages

>15 year
8.9

◦ light manufacturing
(textiles, soap, paper, etc.)

1820 NE

1832 NE 32.7

1850 NE 28.8

1850 US 24.7

1860 NE 28.0

1860 US 21.1

1880 21.4

1890 18.7

} move toward steel

- second industrial revolution
- more male labor needed

as industry increased, we have

- improved infrastructure

- early financial markets

- increased extent of the market

Financial markets (before civil war)

Early banks: ◦ small, local

- each raise their own funds
- not suitable for regular households
- bring in IOUs to get an advance
- accommodation loans - could get credit for any reason.

◦ funds come from:

◦ deposits (10-20%)

◦ currency or bank notes

non-interest bearing

◦ greenbacks replaced these

Everything was chartered by the states, Banks were pretty profitable.

Calomiris article

Bank panics - everyone demands their money at the same time, so the banks end up suspending

convertibility

- depended on where you were in the business cycle and the agricultural cycle.

How to prevent bank panics?

1] Insurance

2] Prudential regulation

◦ can push towards efficient equilibrium

3] a network of banks can serve both
1] and 2].

4] Lender of last resort

- lender with deep enough pockets to get through a crisis.

Types of networks:

- branch banking (across states/within states)
- city clearing house coalitions.
 - banks made loans to each other
 - information becomes difficult to manage as these get bigger

Insurance:

- New York, Vermont - poor supervision, fraud due to moral hazard problems
- Indiana, Ohio, Iowa - better outcomes here
 - unlimited mutual liability.
 - can order bank closures.
- diverse regulation gives us nice variation

Post Civil War

- Politically motivated insurance schemes did not work well.

Diff: 1] Government financing, 2] Protectionism

Irwin: Hamilton was more interested in 1] than in 2].

Next time: Slavery