Econ 113: February 10, 2015

- Fertility Decline, continued
  - David & Sundstrom: Old-Age Security Motive
  - Lahey: Effect of Abortion Laws on Fertility Control
- Immigration
  - Modeling Immigration
  - Historical Patterns
- Antebellum Labor Markets
- Antebellum Poor Relief in New York
- Antebellum Banking & Finance

Model #2: "Old Age Security" Motive

- Paul David and Bill Sundstrom
- Goal: old-age security
- Result: fertility = f (labor market opportunities)

Parents bargain with children over care in old age.

So, ↑ labor market opportunities
→ ↑ bargaining power of children
→ ↓ *likelihood child will care for elderly parent*
→ ↓ *expected* return on parents' investment in children
→ ↓ D(children)

Coefficients in a log-log specification

- "log" means "ln"

Table 4. Determinants of Fertility, 1840

	Dependent Variable: Log of Child-Woman ratio in 1840		
	All States	North	South
Constant	4.7228** (0.6106)	4.0930** (1.3991)	4.7164** (0.3032)
Log (Male-Female ratio in rural areas, 1840)	0.5078 (0.2871)	0.3606 (0.6308)	0.6530** (0.1426)
Log (Rural land *lack of* availability index, 1840)	0.0269 (0.0484)	0.00783 (0.09151)	0.0461 (0.0321)
Log (ratio of non-agricultural to agricultural labor force, 1840)	-0.1799** (0.0243)	-0.1547* (0.0667)	-0.1547** (0.0153)
Log (ratio of wages paid non-farm labor to wages paid farm labo, 1850)	-0.8228** (0.2122)	-1.0416* (0.4907)	-0.8538** (0.1069)
n	29	16	13
Adjusted R^2	0.776	0.661	0.951

Note: Standard errors in parentheses.
** is significantly different from 0 at 1%
* is significantly different from 0 at 5%
Source: David & Sundstrom, "Old-Age Security Motives," Table 4.

"Old-age security" motive – critique

- What assumptions might we challenge?

Lahey: Fertility Control

- Question: Could people control fertility? If so, how?
- Lahey examines effect of abortion laws
  - Was fertility higher in states and years when access to abortion was restricted?
  - Finding: Abortion restrictions ~~lowered~~ **raised** fertility by 4-15%
    - Oops . . . Be sure to catch that correction! ↑

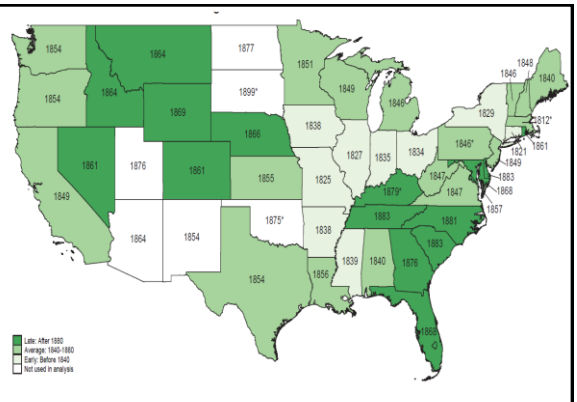

FIGURE 2
TIMING OF FIRST ABORTION CONTROL STATUTE

Coefficients in a log-linear specification

- "Log-linear" means
- If independent variable is 0-1 , then coefficient tells us % change in (unlogged) dependent variable due to existence (1) or non-existence (0) of independent variable

Lahey: Regression Results

Table 5. Determinants of Fertility, 1850-1910

	Dependent Variable: Log of Child-Woman ratio				
	(1)	(2)	(3)	(4)	(5)
Abortion law	0.121** (0.029)	0.149** (0.034)	0.118** (0.029)	0.124** (0.030)	0.148** (0.034)
Medical Exemption		-0.030 (0.025)			-0.028 (0.025)
Medical School			-0.033 (0.022)		
Birth Control Law				-0.012 (0.019)	-0.010 (0.019)
State & year fixed effects?	yes	yes	yes	yes	yes
State-specific time trends?	yes	yes	yes	yes	yes
Adjusted R^2	0.94	0.94	0.94	0.94	0.94
n	291	291	291	291	291

Doing the Analysis

- State fixed effects
- Year fixed effects
- State-specific time trend

Lahey: Regression Results

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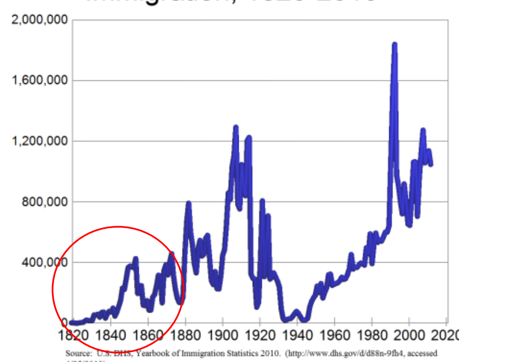
Immigration, 1820-2010



Source: U.S. DHS, Yearbook of Immigration Statistics 2010. (http://www.dhs.gov/d/d88n-9fh4, accessed 4/25/2013)

Immigration

- What share of total population growth was due to immigration?

Table 6. Share of Population Growth Attributable to Immigration

1800-25	2-3 %
1830s	over 10 %
1840s	almost 25 %
1850s	almost 33 %

Source: Derived from *Historical Statistics.*

Who were the immigrants?

- **English**
  - throughout period
- **Irish**
  - 1846-55, following potato famine of 1845-47
  - poor, laborers
  - to eastern cities
- **German**
  - 1850s, following political upheaval and harvest failures
  - not poor, farmers
  - to midwest
- **Chinese**
  - 1850s, following political upheaval and famine
  - laborers, miners
  - to California

Shares of immigrants by home country

Table 7. Patterns of Immigration by Home country

	Great Britain	Ireland	Germany	China	Total #
1820s	20. %	40. %	4. %	0. %	128,500
1830s	14	32	23	0	538,400
1840s	15	46	27	0	1,427,300
1850s	16	37	35	1	2,814,600
1860s	26	20	35	3	2,081,300

Source: U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970,* Series C89, C91, C92, C95, C104.

Shares of immigrants by occupation

Table 8. Patterns of Immigration by Occupation

	Skilled	Farmers	Laborers	Women & Kids
1820s	13. %	9. %	6. %	58. %
1830s	13	12	8	59
1840s	11	15	16	54
1850s	8	14	18	55
1860s	11	8	19	53

Source: U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970,* Series C120, C130, C133, C134, C136.

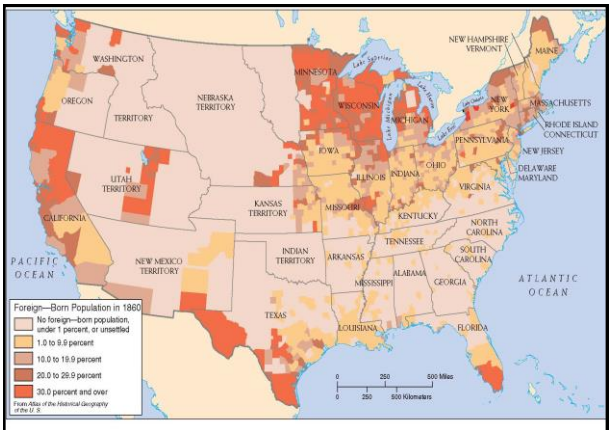
Modeling Migration

- Question: What determines migration?
- Simplifications: One model with "push" & "pull" factors
  - Push factors
    - Why leave home
  - Pull factors
    - Why come to U.S.
- Assumptions:
  - Goal?
  - Behavioral assumptions?

Migration: Goal?

Migration: Push & Pull factors?

Migration: Behavioral Assumptions?



The Distribution of Foreign-born Residents of the United States in 1860

READ IN BOOK: Antebellum Labor

Table 9 . Distribution of Labor Force
Percent Distribution

	Agri-culture	Manu-facturing	Trade & Service
1810	83.6	3.2	3.5
1840	63.1	8.8	11.2
1860	52.9	13.8	14.4

Source: Walton & Rockoff, Table 11-1.

Ratio of female/male wages	
1820	30%
1850	50%
1890	55%

- Quickly, info that you should read in textbook
  - Immigrants are disproportionately non-agricultural workers
  - Organization of factory
    - Rhode Island System
    - Waltham System
  - Very long hours
  - Women workers
    - Be sure you can show with labor market graph why women (due to lower reservation wage) would thus be hired rather than men

Fertility Decline Immigration Antebellum Labor Markets Antebellum Poor Relief Banking

READ IN BOOK: Manufacturing Wages

Table 10. Index of Antebellum Real Manufacturing Wages

	1820	1832	1850	1860
Total	101	128-150	155-197	159-191
Middle Atlantic:				
Rural	90	118-139	131-166	166-199
Urban	111	150-176	165-209	154-185
Urban/Rural	1.2	1.1-1.5	1.0-1.6	0.8-1.1
New England:				
Rural	95	133-156	143-181	156-187
Urban	110	130-153	150-190	165-198
Urban / Rural	1.2	0.8-1.2	0.8-1.3	0.9-1.3

Source: Walton & Rockoff, Table 11-4. Urban/Rural ratio calculated.

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Modeling Labor Markets

Fertility Decline Immigration Antebellum Labor Markets Antebellum Poor Relief Banking

Wages, U.S. versus England

Table 11. Relative Wages, US vs. England
For each group, $w_{England}$=100

Worker	US wage, 1820-21 relative to English wage
Skilled	
carpenter	150
mason	147
ordinary machinist	114 - 129
best machinists	77 - 90
Unskilled	
common labor	135
farm labor	123 - 154
women in mills	102 - 153
boys 10-12 yrs old	115

Source: Walton & Rockoff, Table 11-5.

Modeling rising skill premium

Table 12. Skill Premium

$$\frac{\text{daily wage of machinist}}{\text{daily wage of common labor in urban Massachusetts}} \times 100$$

1825	150
1831-40	156
1841-50	190
1851-60	220

Source: Walton & Rockoff, Table 11-6.

Antebellum Poor Relief

- Joan Hannon, studied New York State, mid-1800s
- State and local governments; not federal
- "Indoor relief"
  - being placed in a poorhouse (or, almshouse)
- "Outdoor relief"
  - receiving money and living on own

Table 13. Relieved Pauperism Rate, NY

	% of Population
1823	1.1
1835	1.8
1849	3.5
1859	6.8

Source: Calculated from Hannon, "Poverty in the Antebellum Northeast," *Journal of Economic History* 44 (December 1984): 1009.

Who Were New York's Paupers?

Table 14. Characteristics of Relief Recipients, 1843-59

	1845-49	1855-59
Male	55.6	44.8
Native born	45.7	41.5
Disabled or Elderly	12.4	5.1
Able-bodied adults	40.6	72.2
Intemperate (alcoholics)	20.4	9.9
Debauched (immoral, probably related to prostitution)	1.6	0.6
Idle & Vagrant	2.9	4.6
Indigent & Destitute (poor)	15.7	57.0

Source: Hannon, "Poverty," Table 1.

Correlations (not multivariate regression)

Table 15. Factors correlated with N.Y. state pauperism rate
(Spearman's rank correlation coefficient. Checks to see if independent variable maps to >1 value of dependent variable.)

	1823		1840/44		1855/59	
independent variable	w/NYC	w/o NYC	w/NYC	w/o NYC	w/NYC	w/o NYC
population growth rate	-0.79*	-0.79*	0.23	0.68	0.60	0.43
% population that's urban	0.52	0.29	0.48	0.21	0.60	0.39
% Non-Agricultural L.F.	0.60	0.39	0.81**	0.71*	n.a.	n.a.
% Manufacturing L.F.	n.a.	n.a.	n.a.	n.a.	0.48	0.21
Household production per capita	-0.69*	-0.54	-0.90**	-0.86*	-0.74*	-0.61
% population foreign born	0.27	0.00	0.79*	0.68	0.67*	0.50
Extent of tenancy (versus freeholders)	-0.07	-0.54	n.a.	n.a.	n.a.	n.a.

Impact of Erie Canal

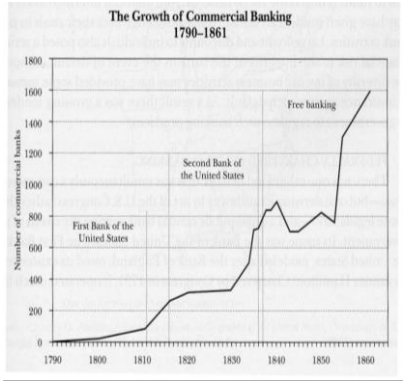
MAP 10.1 Canal Impact Household manufacture of woolen cloth (an index of isolation from commercial routes) underwent a drastic change between 1820 and 1845 along the Erie Canal. The shaded areas indicate the one-third of the counties with the highest home production of woolen goods during this period. (*Source:* Arthur H. Cole, *American Wool Manufacture* [Cambridge, Mass.: Harvard University Press, 1926], vol. 1.)

So, why rising antebellum poverty?

- Hannon concludes. . .
- Rising able-bodied rural poverty due to
  - Commercialization of agriculture and rise of factory system → decline of household production
- Rising able-bodied urban poverty due to
  - Industrialization created wage labor force facing seasonal, irregular work

Antebellum Banking and Finance

- Banks and Finance
  - How were funds channeled from savers to borrowers?
- Expansion of banking in antebellum period



What is a Bank?

- An institution that
  - accepts deposits
  - makes loans
  - earns profit
  - and holds reserves – a fraction of deposits – to cover withdrawals
- "State" banks
  - Chartered vs. free
  - "Free banking" era begins 1836
    - State by state basis

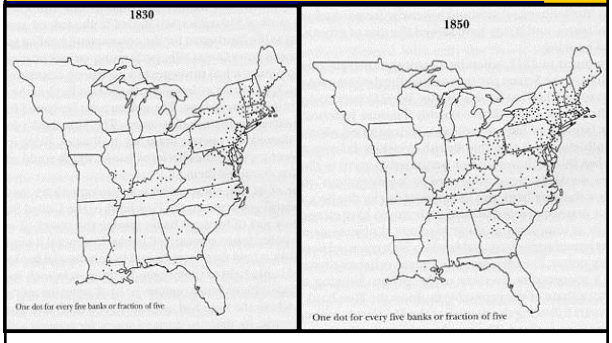
How Many Banks?

Table 1. Number of State Banks

1811	88
1815	208
1816	246
1820	307
1830	330
1834	506
1840	901
1850	824
1860	1562

Source: *Historical Statistics* (1976), Series X561 (1811-1830) and Series X580 (1834-1860).

Location of Banks



Asymmetric Information

- Adverse Selection
  - Before initial transaction
  - Non-random selection of participants
- Moral Hazard
  - After initial transaction, during life of contract
  - Change in behavior due to contract
- How address asymmetric information?
  - government regulation
  - fines & penalties
  - monitoring

Industrial New England, 1820-60

- Naomi Lamoreaux
- Primary bank asset
  - Loans
- Primary source of bank funds
  - Today: deposits
  - Early 19th century: issuing stock
- Banks preferred stock
  - Risk / return tradeoff

Insider Lending

- (def): Kinship or other relationships between bank board members and bank loan customers
- Insider lending solves asymmetric information problems
  - Lending
  - Acquiring Bank Funds

Insider Lending: Effects

- Received wisdom: insider lending bad
- Lamoreaux: insider lending not bad in this context
  - Didn't lower credit availability
  - Didn't hurt soundness of banking system
  - Didn't decrease demand for bank stock
  - Didn't harm New England growth & development