

# History of Labor

## Lecture 5

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# The Growth of Labor Force

1810-1860

**TABLE 11.1 LABOR FORCE DISTRIBUTION, 1810 TO 1860 (IN THOUSANDS)**

YEAR	TOTAL	AGRI- CULTURE	FISHING	MINING	CON- STRUCTION	MANU- FACTURES	TRANS- PORTATION	TRADE	SERVICES
1810	2,330	1,950	6	11	—	—	60	—	82
1820	3,135	2,470	14	13	—	—	50	—	130
1830	4,200	2,965	15	22	—	—	70	—	190
1840	5,660	3,570	24	32	290	500	112	350	285
1850	8,250	4,520	30	102	410	1,200	155	530	430
1860	11,110	5,880	31	176	520	1,530	225	890	715

Source: Adapted from Lebergott 1964, 510.

How did the total labor force grow? Relate this to the production growth in the same period. What does this say about productivity per worker? Also, note the role of services

# The Growth of Labor Force

1870-1920

**TABLE 18.1 POPULATION AND LABOR FORCE (IN MILLIONS), 1870-1920**

YEAR	POPULATION	PERCENT INCREASE	TOTAL IMMIGRATION	LABOR FORCE	PERCENT INCREASE
1870	39.9			12.9	
1880	50.3	26	2.8	17.4	35
1890	63.1	25	5.2	23.3	34
1900	76.1	21	3.7	29.1	25
1910	92.4	21	8.8	37.5	29
1920	106.5	15	5.7	41.6	10

**Source:** Historical Statistics 1975, Series A6, C89, and D167.

# The Real Wages

1820-1860

**TABLE 11.4 INDEXES OF REAL WAGES FOR ADULT MALES IN  
NORTHEASTERN MANUFACTURING BY GEOGRAPHIC  
AREA, URBANIZATION, AND SIZE OF FIRM, 1820 TO 1860**

WEIGHTED <sup>a</sup>	1820	1832	1850	1860	PER ANNUM GROWTH RATE, 1820-1860
Middle Atlantic	100	122-143	159-202	157-188	1.2-1.6
Rural	90	118-139	131-166	166-199	1.6-2.1
Urban	111	150-176	165-209	154-185	0.8-1.3
Major urban	115	—	171-217	151-180	0.7-1.2
Small	81	93-108	129-163	140-168	1.4-1.9
Medium	106	128-151	142-180	163-195	1.1-1.6
Large	110	123-144	171-216	159-190	0.9-1.2
New England	101	131-154	149-188	164-197	1.3-1.7
Rural	95	133-156	143-181	156-187	1.3-1.8
Urban <sup>b</sup>	110	130-153	150-190	165-198	1.2-1.5
Major urban	122	170-200	154-195	182-218	1.0-1.5
Small <sup>c</sup>	90	125-147	159-201	172-206	1.7-2.2
Medium	99	127-149	152-193	163-195	1.3-1.8
Large	110	133-157	146-185	164-196	1.0-1.5
Total	101	128-150	155-197	159-191	1.2-1.6

<sup>a</sup>Weighted averages are weighted by number of employees in each group.

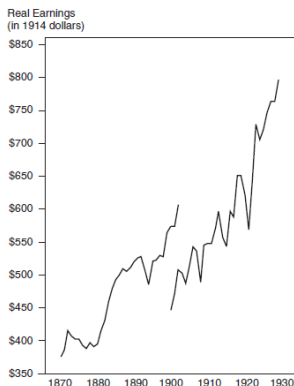
<sup>b</sup>Urban firms are those located in counties with a city of 10,000 or more; major urban, the same for 25,000 or more.

<sup>c</sup>Small firms, 1 to 5 workers; medium, 6 to 15; large, 16 or more.

# The Real Wages

1870-1920

**FIGURE 18.2**  
Real Earnings of  
Nonfarm Employees



Source: Stanley Lebergott, *Manpower in Economic Growth: The American Record Since 1800* (New York: McGraw-Hill, 1964), 524. Copyright © 1964 by The McGraw-Hill Companies, Inc. Reprinted by permission.

Can we relate the growth of real wages with the growth of labor productivity ( $Y/L$ )? Are the firms maximizing? Why did workers unionize?

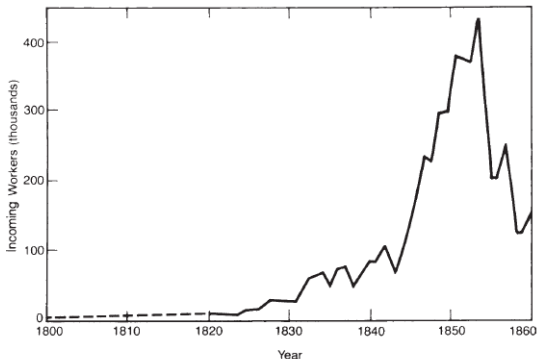
# Flows into the Labor Force

## Immigration

**FIGURE 11.1**

Additions to the U.S.  
Labor Force from  
Migration, 1800-1860

Laborers came in huge  
numbers during the  
post-1845 period to a  
nation rich in land and  
rapidly increasing its  
stock of capital.



Source: *Historical Statistics*, 1958.

How is the aggregate Production Function relevant here?

K and L: perfect substitutes of perfect complements?

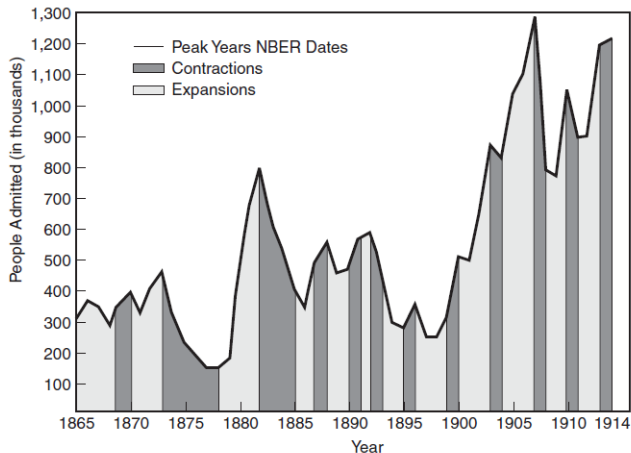
Socialist planning and production functions.

# Flows into the Labor Force

## Immigration: What drove supply of Labor?

**FIGURE 18.1**

U.S. Immigration and  
Business Cycles,  
1865–1914



Source: Derived from Historical Statistics 1960, Series C88; business cycle dates from Burns and Mitchell 1947, 78.

# Flows into the Labor Force

## Immigration: structure of US immigration

**TABLE 11.3 AVERAGE YEARLY IMMIGRATION BY ORIGIN, 1845-1860**  
(IN THOUSANDS)

YEAR	TOTAL	GREAT BRITAIN	IRELAND	GERMANY	OTHER
1845-1850	233	34	107	66	26
1851-1855	350	47	139	129	35
1856-1860	170	38	44	61	27

Source: *Historical Statistics 1958*.

What drove people out of their countries? What attracted them to US?



# Factors Affecting Migration

Geographical wage differentials: do they play a role today?

**TABLE 11.5 WAGE DIFFERENTIALS BY SKILL BETWEEN ENGLAND AND THE UNITED STATES, 1820 TO 1821 (ENGLISH WAGE = 100)**

WORKERS	U.S. WAGES
Skilled	
Carpenter	150
Mason	147
Best machine makers, forgers, etc.	77 to 90
Ordinary machine makers	114 to 129
Unskilled	
Common laborer	135
Farm laborer	123 to 154
Servant, maid	149 to 224
Common mule spinners in cotton mills	106 to 137
Common mule spinners in woolen mills	115
Weavers on hand looms	122
Women in cotton mills	102 to 153
Women in woolen mills	128
Boys 10 to 12 years old	115

Source: Adapted from Rosenberg 1967, 226.

Unionization in US vs Europe in the 19th c.? The skill premium?

# The Skill Premium

... and the growing income inequality

**TABLE 11.6 RATIOS OF DAILY WAGES OF MACHINISTS TO  
COMMON LABORERS IN URBAN MASSACHUSETTS,  
1825–1860**

YEAR	PERCENT
1825	150%
1831–1840	156
1837	185
1845	169
1841–1850	190
1851–1860	220

*Source: Wright 1889, 22, 54, and 55; as quoted in Williamson and Lindert 1980, 71.*

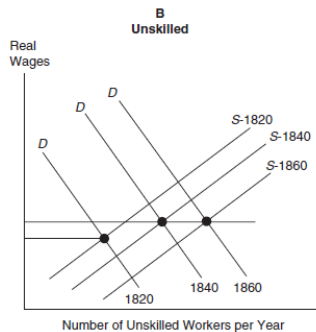
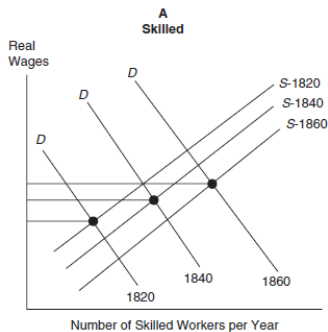
Labor inequality growing; Skilled workers get more: + return on human capital  
→ demand for schooling

# What Explains the Skill Premium?

An equilibrium approach

**FIGURE 11.3**

The Market for  
Manufacturing Workers  
Separated by Skill

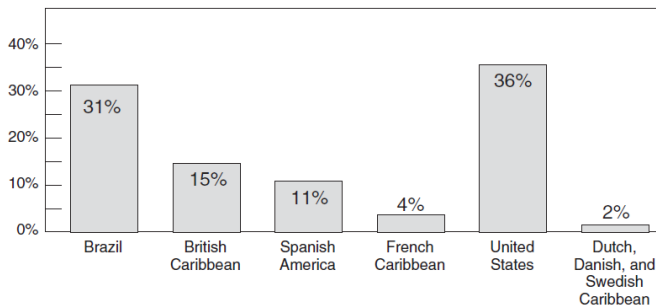


# Slavery: An Economic Approach

## Geographical Spread

**FIGURE 13.2**

The Distribution of  
Slaves in the Western  
Hemisphere, 1825



How is slavery related to industrial structure at the time?

# Slavery: An Economic Approach

The benefit from a special “asset”

**TABLE 13.4 COMPARISONS OF EFFICIENCY IN SOUTHERN AGRICULTURE BY FARM TYPE AND SIZE**  
(INDEX OF FREE SOUTHERN FARMS = 100)

NUMBER OF SLAVES	INDEX OUTPUT PER UNIT OF TOTAL INPUT
0	100
1-15	101
16-50	133
51 or more	148

Source: Fogel and Engerman 1977, 285.

How will that affect the political support for democracy as opposed to slavery?

# Slavery: An Economic Approach

**TABLE 13.3 THE SOUTHERN POPULATION BY RACE, 1800–1860**  
(IN MILLIONS)

YEAR	WHITE	BLACK		SLAVE AS A PERCENTAGE OF FREE
		SLAVE	FREE	
1800	1.70	0.86	0.06	49%
1810	2.19	1.16	0.11	50
1820	2.78	1.51	0.13	52
1830	3.55	1.98	0.18	53
1840	4.31	2.43	0.21	54
1850	5.63	3.12	0.24	53
1860	7.03	3.84	0.26	53

**Note:** Amounts rounded.

**Source:** Historical Statistics 1960.

A reason democracy was not possible in the South...

# Slavery: An Economic Approach

The South enjoying the benefits of slavery

**TABLE 13.8 PER CAPITA INCOME BEFORE THE CIVIL WAR  
(IN 1860 PRICES)**

	TOTAL POPULATION		FREE POPULATION	
	1840	1860	1840	1860
National Average	\$ 96	\$128	\$109	\$144
North	109	141	110	142
Northeast	129	181	130	183
North Central	65	89	66	90
South	74	103	105	150
South Atlantic	66	84	96	124
East South Central	69	89	92	124
West South Central	151	184	238	274

**Source:** Fogel and Engerman 1971, Table 8, 335. ©1971 by Harper & Row Publishers, Inc. Reprinted by permission of Pearson Education, Inc.

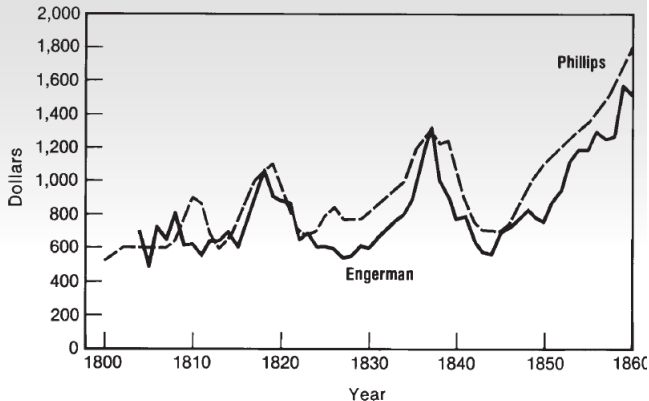
# Slavery: An Economic Approach

Was slave labor for free?

## CAPITAL ASSET VALUE OF A SLAVE, Continued

**FIGURE 13.3**

Price of a Prime Male  
Slave, New Orleans,  
1800–1860





# Slavery: An Economic Approach

## Investment in slaves

**TABLE 13.9** TOTAL VALUE OF SLAVES IN THE UNITED STATES,  
1810–1860 (IN MILLIONS OF DOLLARS)

YEAR	TOTAL VALUE
1810	\$ 316
1820	610
1830	577
1840	997
1850	1,286
1860	3,059

Source: *Ransom and Sutch 1988*.

What if investment in slaves was calculated in GDP? Why the 10-fold increase in slaves vs 5-fold increase in the labor force?

# A more recent take on labor

A refresher on the industrial structure and labor mkt

**TABLE 28.3 DISTRIBUTION OF JOBS, 1955–2002, AS A PERCENTAGE OF TOTAL EMPLOYMENT**

YEAR	MANUFACTURING, MINING, AND CONSTRUCTION			
	AGRICULTURE	SERVICES	GOVERNMENT	
1955	11.3	35.9	40.7	12.1
1960	9.2	34.3	42.6	14.0
1970	4.7	31.7	46.7	16.9
1980	3.6	27.4	51.7	17.3
1990	2.9	22.1	58.8	16.3
2000	2.4	19.0	63.2	15.3

Source: Economic Report of the President, 2003, Table B46.

Why did the occupational structure change?

# Gender Issues

## Labor force participation

**TABLE 28.4 PARTICIPATION OF MEN AND WOMEN IN THE PAID LABOR FORCE, 1960–2001**

YEAR	WOMEN	MEN	TOTAL
1960	37.7%	83.3%	59.4%
1970	43.3	79.7	60.4
1980	51.5	77.4	63.8
1990	57.5	76.4	66.5
2000	59.9	74.8	67.1
2001	59.3	73.2	66.0

Source: *Statistical Abstract 2009*.

Notice the differences: men vs women? What was driving the increase in the labor force participation?

# Gender Issues

## Wage differentials

**TABLE 28.5 THE GENDER GAP—RATIOS OF FEMALE TO MALE EARNINGS**

OCCUPATION	1890	1930	1970	2007 <sup>a</sup>
Professional	0.26	0.38	0.71	0.74
Clerical	0.49	0.71	0.69	0.69
Sales	0.59	0.61	0.44	0.69
Manual	0.54	0.58	0.56	0.64
Service	0.53	0.60	0.56	0.65
Farm	0.53	0.60	0.59	0.62

<sup>a</sup>Because this column is based on a different source, only rough comparisons can be made with the other columns.

Source: 1890–1970: *Goldin 1990, 64*; 2007: *Statistical Abstract of the United States, 2007, Table 627*.

Notice the differences: men vs women?

# The Rich, the Poor and Democracy

**TABLE 11.8 LAWS ON SUFFRAGE\***

	<b>SECRET BALLOT OBTAINED</b>	<b>WOMEN GAIN VOTE</b>	<b>100% MALE SUFFRAGE</b>	<b>PROPORTION OF POPULATION VOTING IN 1900</b>
United States	1849	1920	1870	18.4
United Kingdom	1872	1918	1948	16.2
Germany	1848	1919	1872	15.5
France	1831	1945	1848	28.2
Argentina	1912	1947	1912	1.8
Brazil	1932	1932	1988	3.0
Chile	—	1949	1970	4.2
Peru	1931	1955	1979	—
Venezuela	1946	1945	1946	—
Costa Rica	1925	1949	1913	—

\*Special thanks to Elyce Rotella's student, Rachel Reed, for correcting an error in the 10th edition.

Timing: West VS Latin America?

Total population voting: the West VS Latin America?

→ representation? → inequality → lack of social mobility

# Further reading

- ① \*\*\* Clark, Gregory, (2007). A Farewell to Alms. A Brief Economic History of the World. Princeton University Press, Princeton, NJ [**Chapter 14**]
- ② \*\*\* Walton, Gary M., and Hugh Rockoff, (2010). History of the American Economy: Eleventh Edition. South-Western Cengage Learning, Mason, OH [Chapter 11: Labor during the Early Industrial Period; Chapter 13: The Entrenchment of Slavery and Regional Conflict; Chapter 18: The Emergence of America's Labor Consciousness; [**Chapter 28**: Manufacturing, Productivity, and Labor].
- ③ Peltzman, Sam, (2009). Mortality Inequality. *Journal of Economic Perspectives*, 23(4), 175–190. Retrieved from <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.23.4.175>