

Economics C23-1

Lecture 1

I. Why study Economic History?

As a tool to understand the past

e.g. causes of the Civil War

As a laboratory to understand theory

e.g. human capital, role of govt.

**As a check on the uniqueness of our
contemporary experiences**

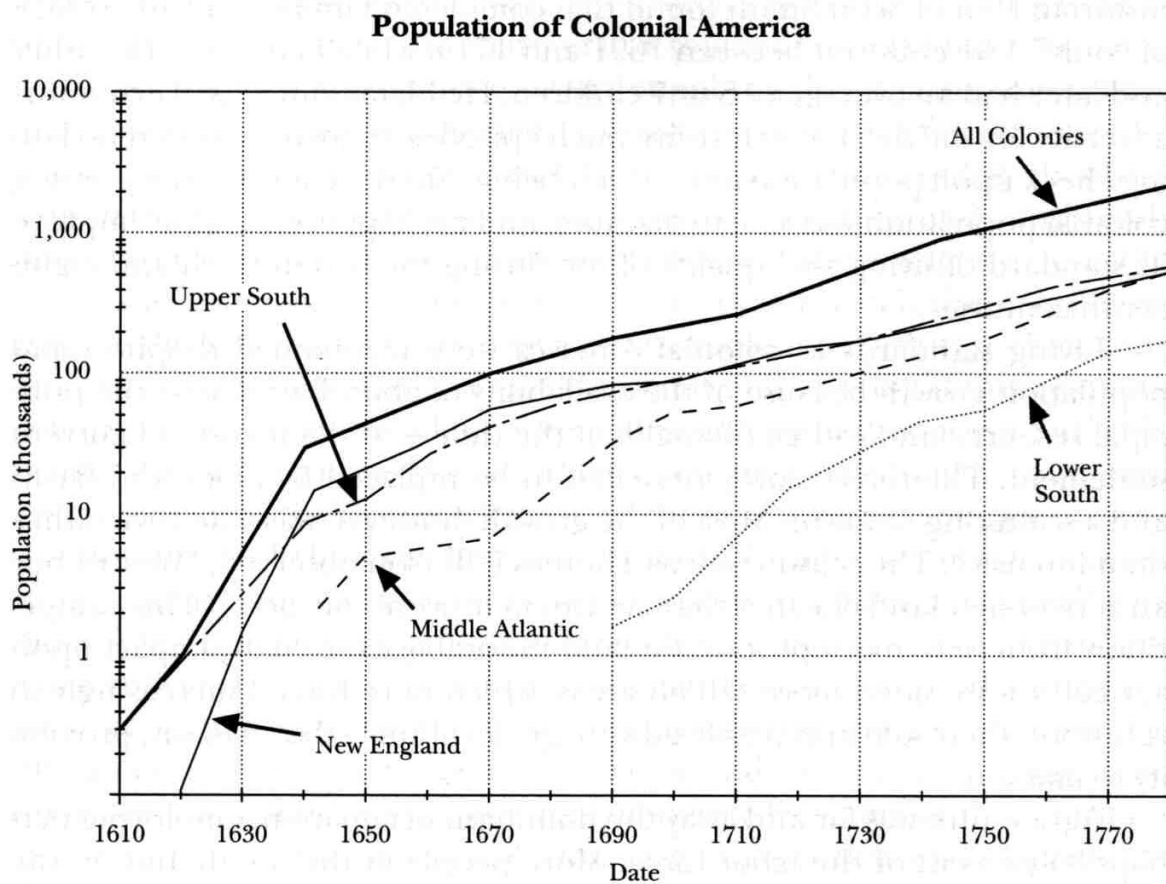
e.g. recessions and booms

II. The Heritage: What Europeans Found Here, What They Brought

A. “Settlers” – is that the right term?

B. Who came?

C. Why did they come?



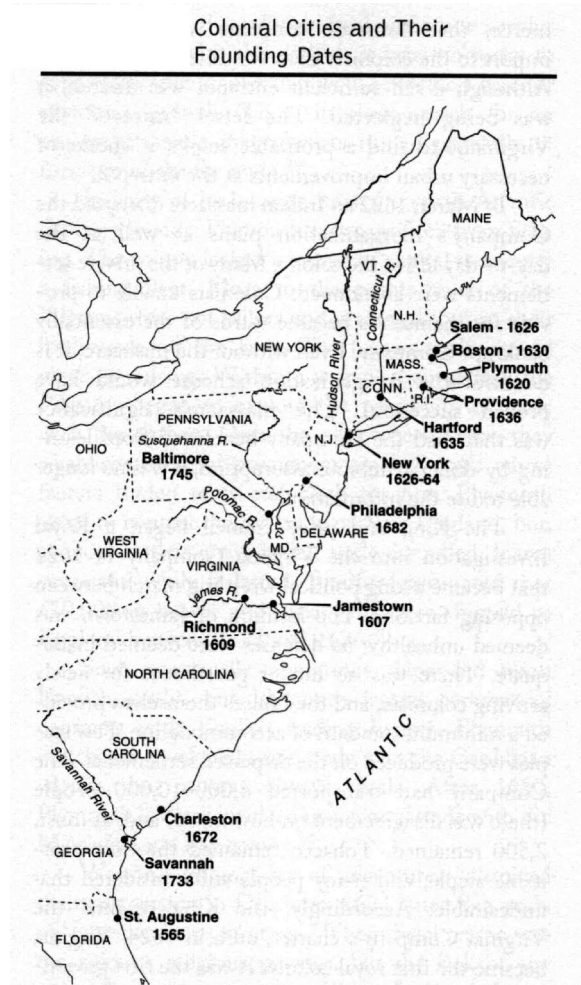
Source: U.S. Bureau of the Census, *Historical Statistics of the United States* (Washington, D.C.: Government Printing Office, 1975): Series Z1-219.

III. The Settlement Process

A. Forms of settlement

Joint-stock co. (e.g. Jamestown)
Royal colonies
Proprietorships

B. Land distribution



IV. Long Run Trends in Growth:

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**A. Per Capita Income: $Y_p = Y/P \rightarrow Y_p = Y - P$
where an ° indicates a percentage change**

Year	Current Dollars	Constant 1989 Dollars ^a	Annual Rate of Growth between Benchmark Dates
1710 (Taylor's estimate)	\$28	\$350	
1710 (Gallman's estimate)	45	550	
1775	60	750	1.18% ^b 0.48% ^c
1840	109	1,350	0.91
1880	205	2,650	1.70
1929	847	6,150	1.73
1945	1,515	10,450	3.37
1960	2,788	11,100	0.40
1990	22,099	20,950	2.14

^aRounded to the nearest \$50.

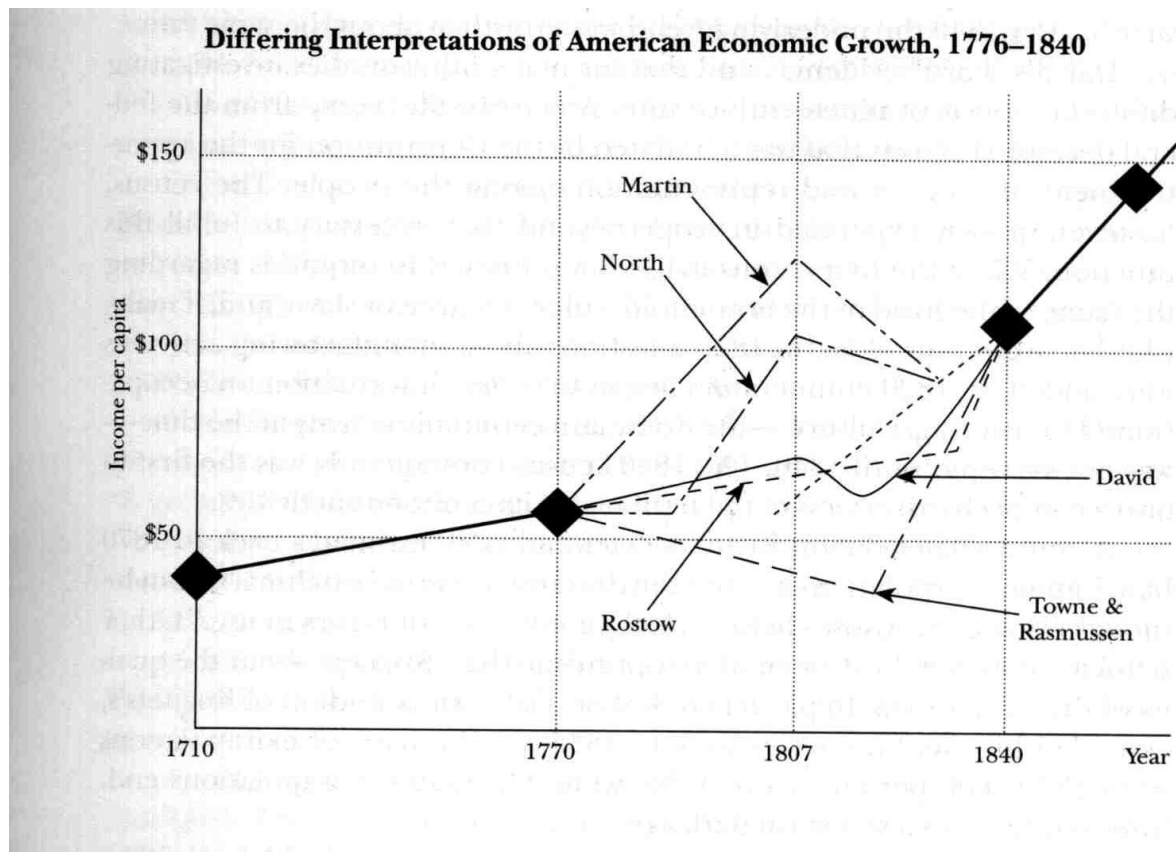
^bUsing Taylor's estimate for 1710.

^cUsing Gallman's estimate for 1710.

Sources: George Rogers Taylor, "American Economic Growth before 1840: An Exploratory Essay," *Journal of Economic History* 24 (December 1964). Reprinted by permission of Cambridge University Press. Robert Gallman, "The Pace and Pattern of American Economic Growth," in *American Economic Growth*, ed. Lance Davis et al. Copyright © 1972 by Harper & Row, Publishers, Inc. Reprinted by permission of HarperCollins Publishers, Inc. U.S. Bureau of the Census, *Historical Statistics of the United States* (Washington, D.C.: Government Printing Office, 1975); U.S. Bureau of the Census, *Statistical Abstract of the United States: 1992* (Washington, D.C.: Government Printing Office, 1992).

**Growth by a factor of 40 over 280 years,
faster in some eras than in others**

**We don't know much about 1770-1840,
but it was clearly an important era**



Why? Some have suggested that economies go through a “take-off” when the rate of growth increases sharply

Some guesses for this early period:

Conjectural Estimates of the Growth of Real Product, 1800–1860

	Per Capita Output Index	Annual per Capita Growth (%)
1800	64.4	—
1810	61.9	-0.4
1820	67.6	0.9
1830	84.0	2.2
1840	100.0	1.8
1850	110.4	1.0
1860	137.0	2.2

Source: Paul A. David, "The Growth of Real Product in the United States before 1840: New Evidence, Controlled Conjectures," *Journal of Economic History* 27 (June 1967): 151–97. Reprinted by permission of Cambridge University Press.

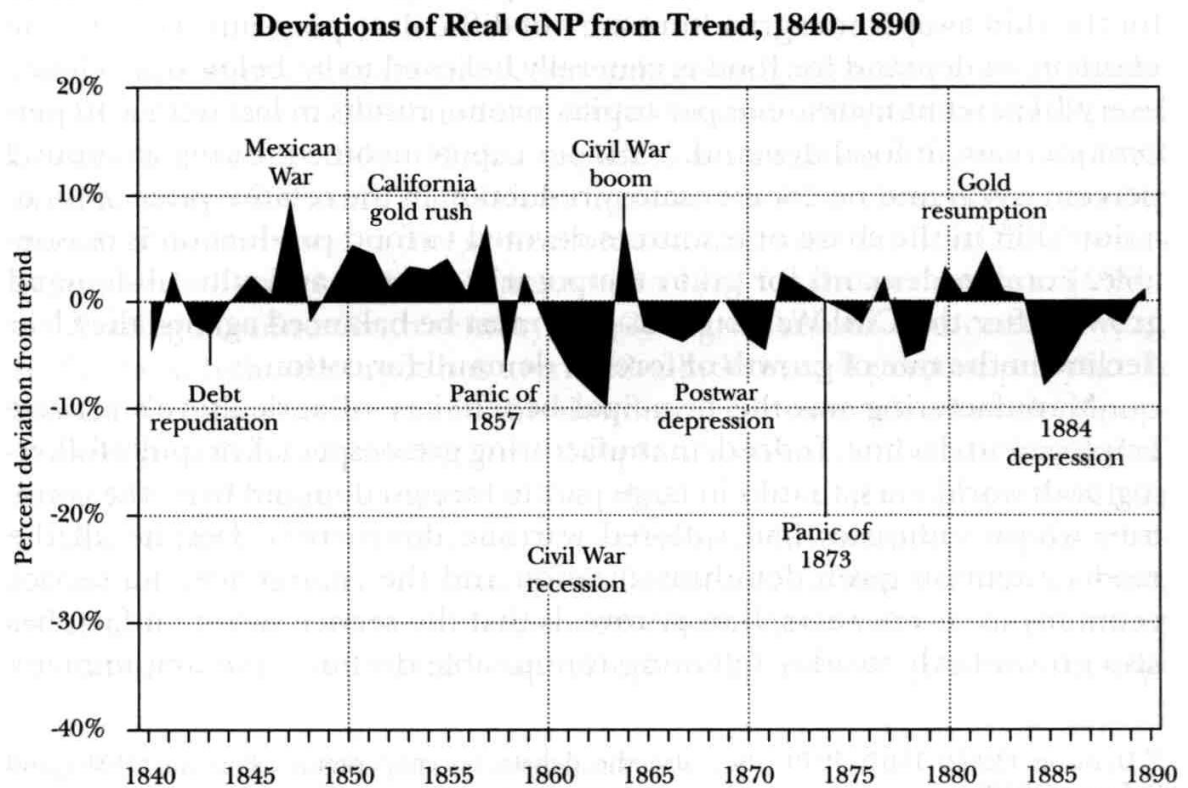
The Sources of Change in per Capita Output, 1800–1860

Percentage Change Attributable to:

Decade	Shift out of Agriculture	Change in Agricultural Productivity	Labor Force Participation Rate	Total
1800–09	-0.009	-0.032	0.003	-0.038
1810–19	0.039	0.035	0.019	0.095
1820–29	0.066	0.178	-0.012	0.240
1830–39	0.055	0.110	0.025	0.200
1840–49	0.061	0.000	0.066	0.131
1850–59	0.011	0.215	0.000	0.228

Source: Paul A. David, "The Growth of Real Product in the United States before 1840: New Evidence, Controlled Conjectures," *Journal of Economic History*, 27 (June 1967): 151–97. Reprinted by permission of Cambridge University Press.

Growth after 1840



GNP estimates from Thomas S. Berry, "Production and Population since 1789" (Bostwick Paper No. 6, 1988). Trend calculated from overlapping simple trend lines of 40–60 years' duration.

B. Accounting for growth

**Production function $Q=f(L,K,T)$
where L =labor, K =capital, T =land, and
 $f()$ is the function relating inputs to
output**

We'll assume a Cobb-Douglas form:

$$Q = AL^\alpha K^\beta T^\phi$$

where α , β , and ϕ are output elasticities (the % by which output changes when an input changes by 1%; e.g. if $\alpha=0.6$, then Q rises by 0.6% when L rises by 1%) and A is an index of total factor productivity

$$A = Q / (L^\alpha K^\beta T^\phi)$$

So total factor productivity (TFP) is the ratio of output to a weighted average of the inputs (geometrically weighted); note this differs from labor productivity Q/L

Expressed in rates of change, we have

$$\overset{\circ}{A} = \overset{\circ}{Q} - [\alpha \overset{\circ}{L} + \beta \overset{\circ}{K} + \phi \overset{\circ}{T}]$$

where an $\overset{\circ}{}$ over a variable indicates a percentage change; we can re-arrange these to express output change in terms of changes in inputs and TFP

Accounting for Growth, 1840–1990

PANEL A

Period	Annual Rate of Growth of:			
	Labor	Capital	Land	Net National Product
1840–1860	3.42%	6.57%	3.73%	4.75%
1870–1930	2.24	4.35	2.55	3.75
1940–1990	1.59	3.14	0.34	3.22

PANEL B

Period	Percentage of the Growth in Net National Product Attributable to:			
	Labor	Capital	Land	Productivity (the residual)
1840–1860	49%	26%	10%	15%
1870–1930	43	27	4	27
1940–1990	41	14	0	45

Source: After Edward F. Denison, *Sources of Economic Growth in the United States* (Washington D.C.: Brookings Institution, 1962) and Lance Davis et al., *American Economic Growth* (New York: Harper and Row, 1972): 34–39. Copyright © 1972 by Harper & Row Publishers, Inc. Reprinted by permission of HarperCollins Publishers, Inc.