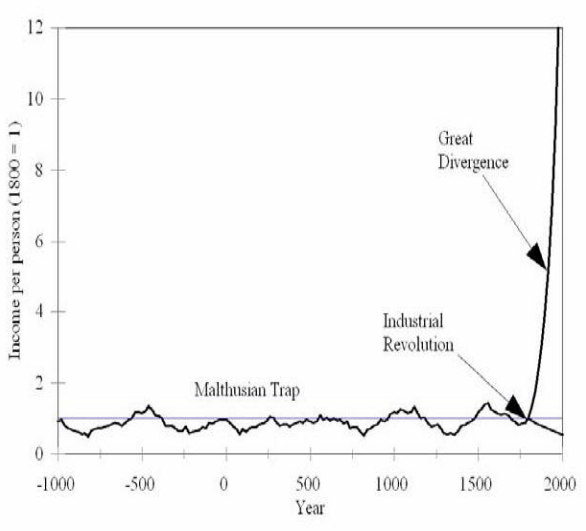
The Economic History of the World



The Economic History of the World

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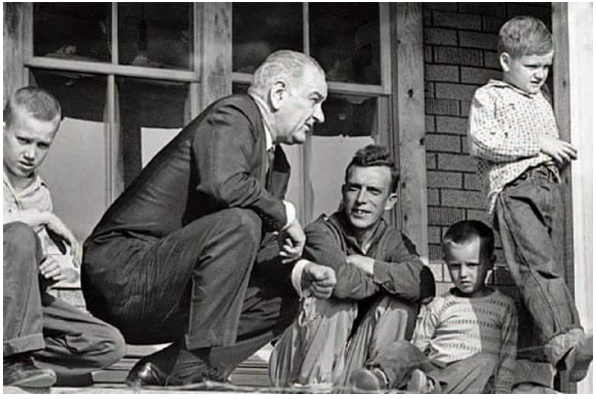
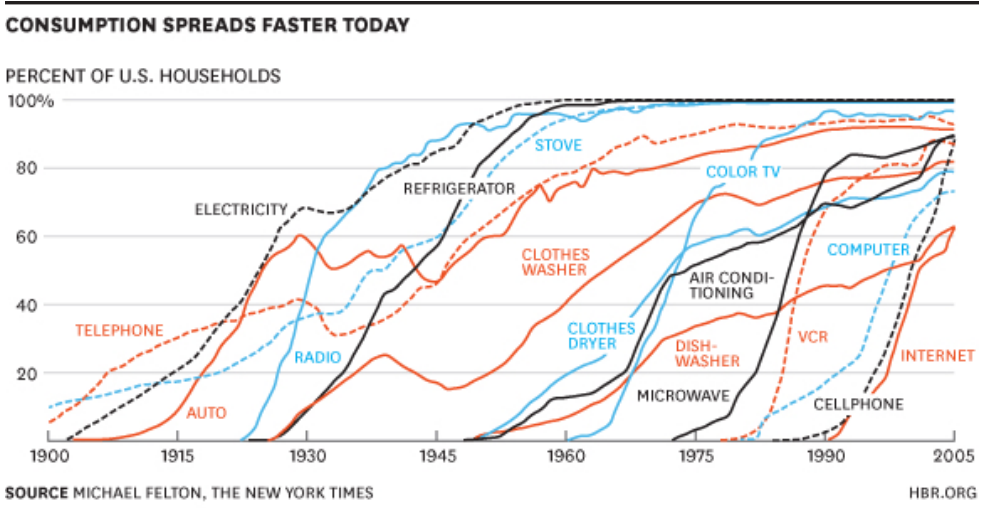
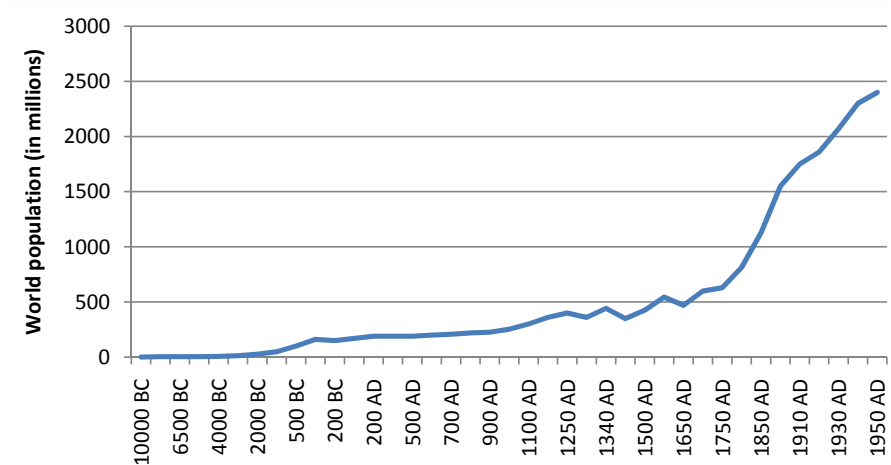


Providing Some Context



Let's head to PollEv.com/jmparman to put things in context...

A Brief Population History of the World



Population in the Preindustrial World

Location	Population in 1300	Population in 1800	Surviving children per woman
Norway	0.4	0.88	2.095
Southern Italy	4.75	7.9	2.061
France	17	27.2	2.056
England	5.8	8.7	2.049
Northern Italy	7.75	10.2	2.033
Iceland	0.084	0.047	1.93

Explaining Stationary Populations

- One of the key differences between the preindustrial world and the modern world was that population size was pretty much static
- It turns out that there is a very simple economic argument for why this was the case, the Malthusian trap
- The argument depends on three assumptions about how preindustrial economies worked:
  - Each society had a birth rate increasing with living standards
  - Each society had a death rate decreasing with living standards
  - Living standards decline as population increases

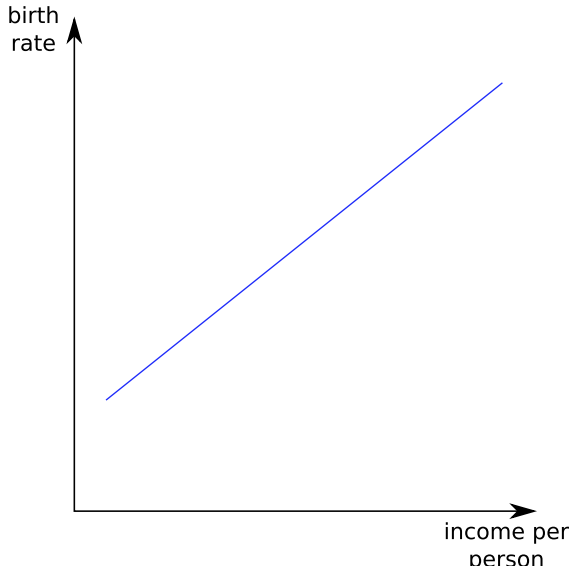
The Birth Rate Schedule

- The birth rate is just the number of births per year per thousand people
- For example, there were 4,059,000 births in the United States in 2000 and the US population was 281,421,906:

$$b_{2000} = \frac{4059000}{\frac{281421906}{1000}} = 14.4$$

- By 2019, the birth rate had decreased to 11.4
- We assume that in the preindustrial world, birth rates rose with material living standards
- Why? A wealthier family could better afford an additional child, a healthier woman was more likely to have a successful pregnancy, ...

The Birth Rate Schedule



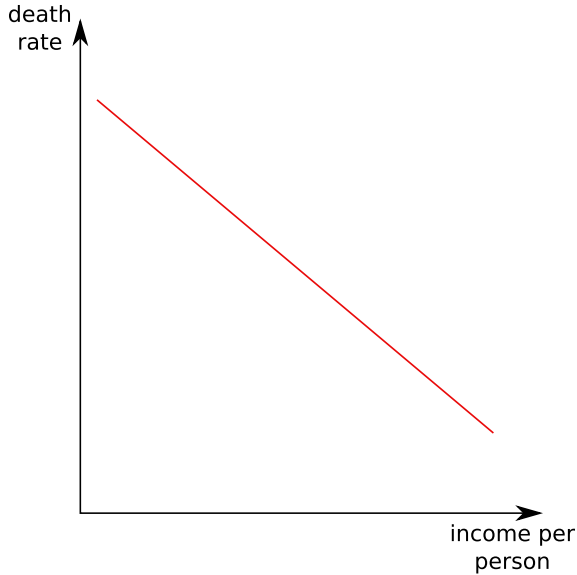
The Death Rate Schedule

- The death rate is just the number of deaths per year per thousand people
- For example, there were 2,403,000 deaths in the United States in 2000 and the US population was 281,421,906:

$$d_{2000} = \frac{2403000}{\frac{281421906}{1000}} = 8.5$$

- The death rate increased to 8.7 in 2019 and 10.3 in 2020 (something to think about for the empirical project)
- We assume that in the preindustrial world, death rates fell with material living standards
- Why? Higher levels of consumption (better food, clothing, shelter, etc.) helps you live longer

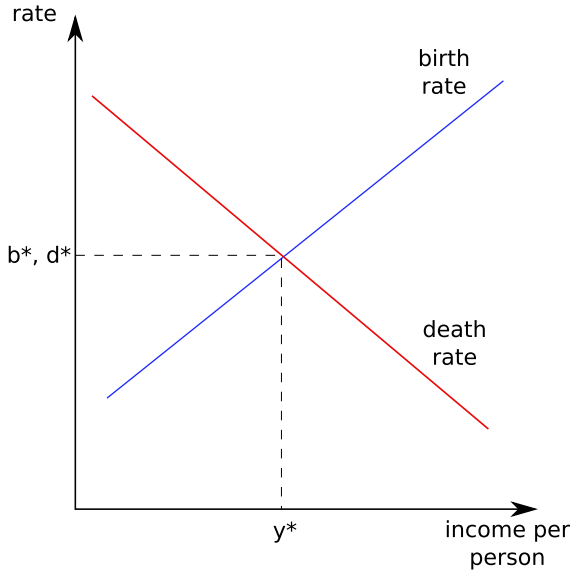
The Death Rate Schedule



Stationary Population

- Notice that for our US figures, the birth rate was 14.4 births per 1,000 people per year and the death rate was 8.5 deaths per 1,000 people per year
- This means that each year, more people are being born than are dying so population must be growing
- Recall that the preindustrial world had almost no population growth
- So in the preindustrial world, the birth rate roughly equaled the death rate (the income per person at which this occurs is called the *subsistence income*)

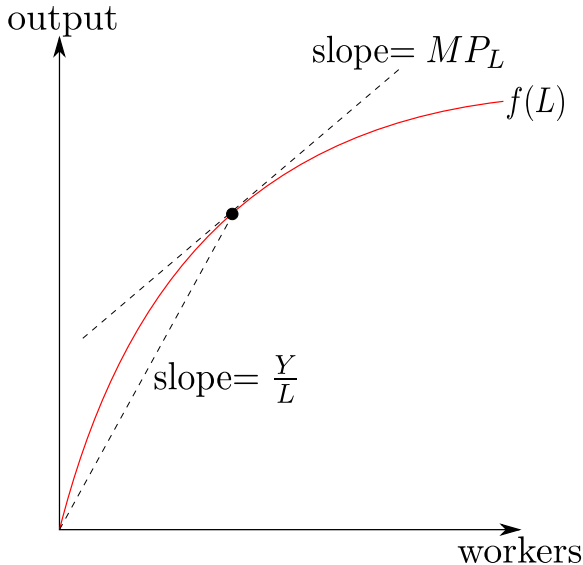
Stationary Population



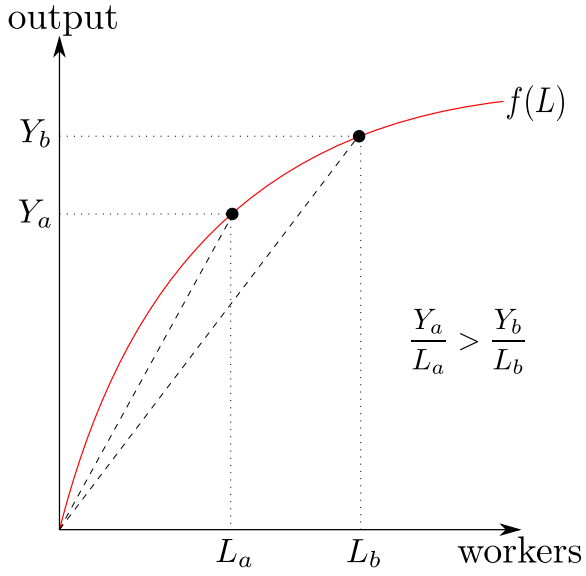
Stationary Population

- But why a stationary population?
- Because of diminishing marginal productivity of labor
- With some resources fixed (for example land), the marginal product of an extra person is positive but smaller than the marginal product of the previous person
- This means that while total output increases as population increases, it increases at a slower rate than population
- The technology curve captures this relationship between population and average output (or income) per capita

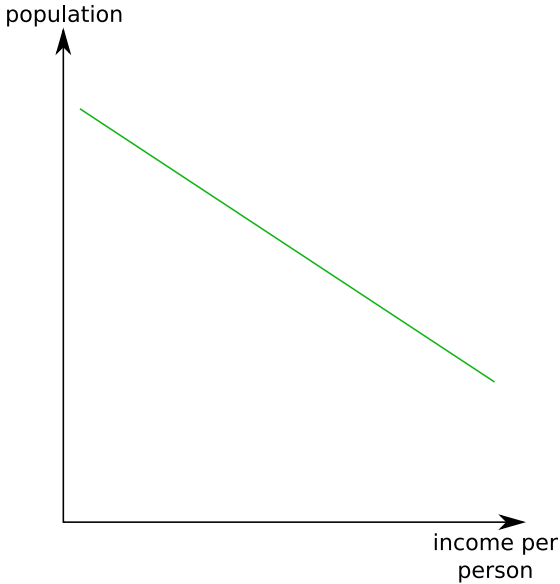
Diminishing Marginal Product and the Malthusian Trap



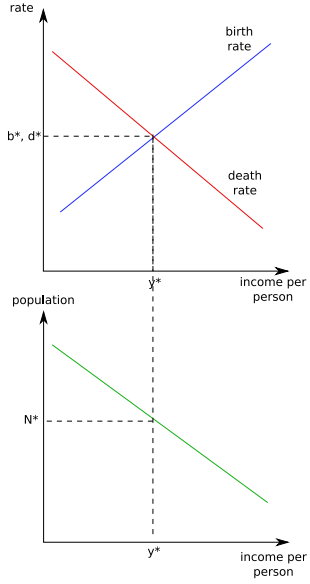
Diminishing Marginal Product and the Malthusian Trap



The Technology Curve



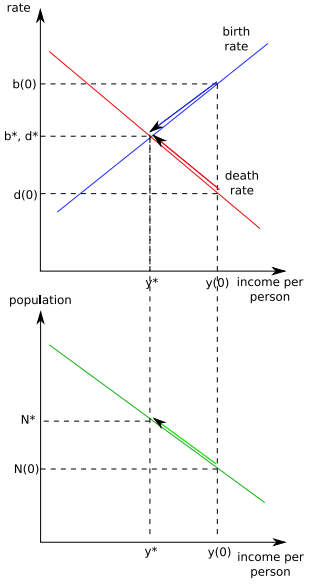
The Malthusian Equilibrium



Moving to the Malthusian Equilibrium

- Suppose we were at an income per person greater than the equilibrium level
- Then births would exceed deaths leading to population growth
- As the population grows, we move up and to the left along the technology curve
- This leads to lower income per person increasing the death rate and decreasing the birth rate
- Things stop moving once the birth rate equals the death rate

Moving to the Malthusian Equilibrium



Moving to the Malthusian Equilibrium

- Notice that equilibrium income per person had nothing to do with the level of technology
- Equilibrium income per person is determined entirely by the birth rate and death rate
- The technology curve mattered for two reasons:
  - The downward slope told us how income per person would change if the population was growing or shrinking
  - The position determined the equilibrium population level

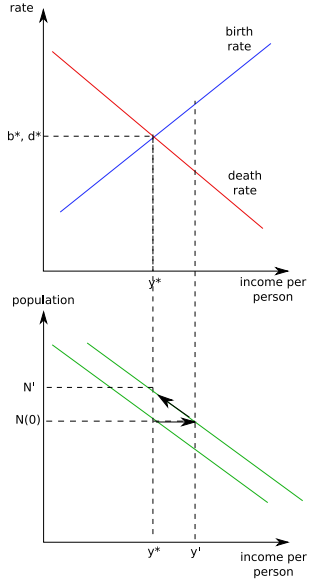
The Effects of a Change in Technology

Suppose that there is an improvement in technology (we invent the wheel). What happens?

- The advance in technology will shift the technology curve to the right
- In the short run (before population adjusts), this means greater income per person
- Births will rise, deaths will fall and the population will grow
- The economy returns to the old income per person only at a new higher population

So an improvement in technology can allow for greater population density but doesn't improve average income per person

The Effects of a Change in Technology

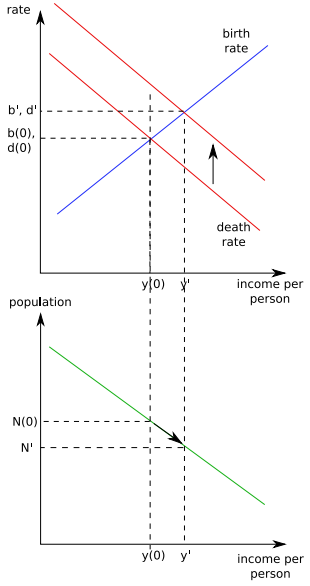


The Effects of a Change in the Birth or Death Schedules

A shift in the birth or death schedules can change equilibrium income per person. Suppose that the plague comes along, what happens?

- The rise in disease will shift the death rate curve up (more deaths at any given income level)
- At the current income per person, deaths will now outnumber births and the population will decrease
- As the population decreases, income per person will rise until deaths once again equal births
- The economy settles at a new higher income per person and a new lower population

A Shift in the Death Rate Curve



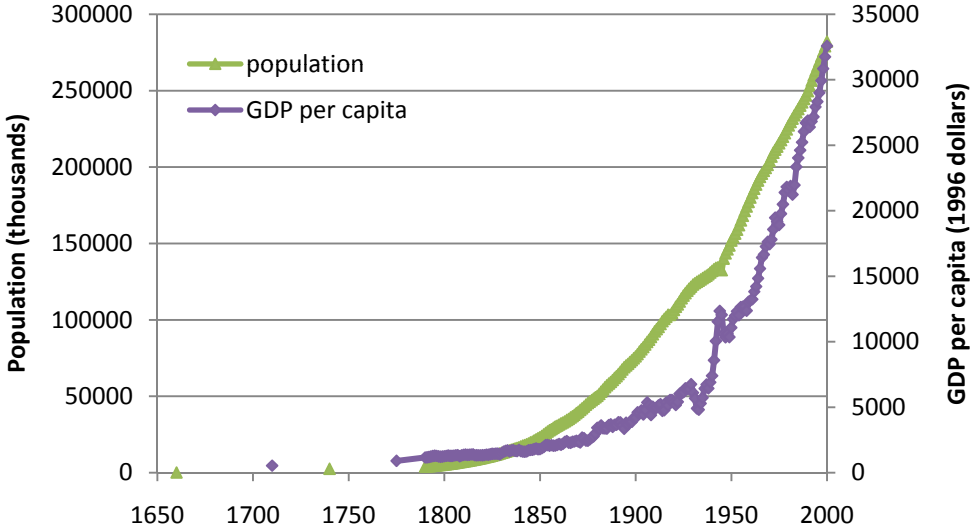
Change in the Malthusian World

- The birth and death rate curves determine the subsistence income
- The technology curve determines the population size based on this subsistence income
- A change in technology can lead to a different population size in the long run but not a different subsistence income
- A change in the birth rate or death rate curve is the only way to change the long run subsistence income

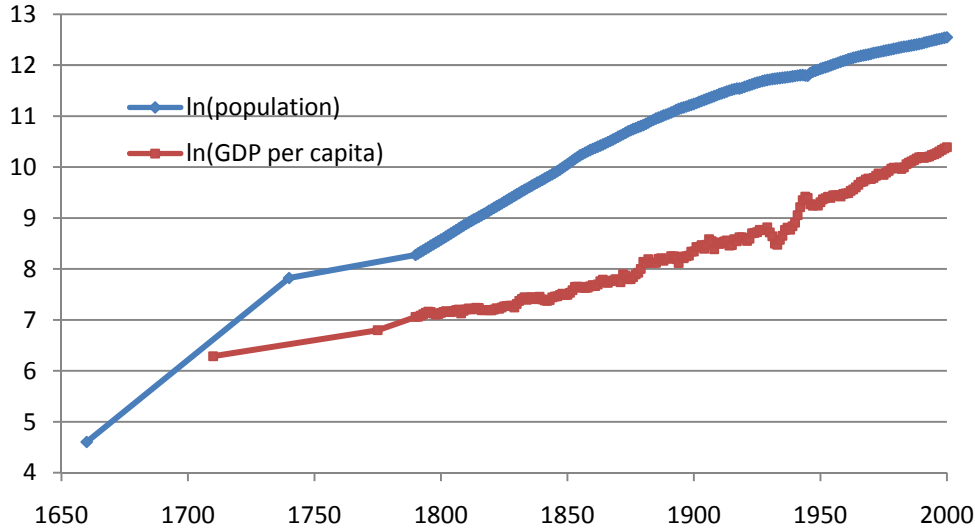
The Economic State of the World in 1600

- So this is the world in which the modern American economy will gets its start
- Economies are constrained by this Malthusian trap
- These Malthusian forces limit population growth and gains in income per person when there are resource constraints
- Over the semester, we are essentially going to trace America's emergence out of this world into our modern world of steady population and income growth

America as the Exception to the Rule?



America as the Exception to the Rule?



America as the Exception to the Rule

- The United States has a unique history among developed economies
- When America was colonized, the rest of the world was very much stuck in a Malthusian trap
- However, the colonies managed to experience rapid population growth without declining output per person
- One reason was America's unique abundance of natural resources

Growth During the Colonial Period

- The colonial period had high population growth rates: population was growing at about 3.5% per year
- The size of the economy was growing substantially: total output increased by a factor of 10 between 1710 and 1775
- Per capita income grew but it grew slowly: output per person increased by roughly one third between 1710 and 1775
- The colonies weren't in a Malthusian trap but they weren't experiencing modern growth either
- For comparison, from 1955 to 2018, US GDP went from $2.8 trillion to $18.6 trillion, GDP per capita went from $17,372 to $56,922 (Measuring Worth)

Other Ways to Grow

- Obviously any economy ultimately runs into natural resource constraints
- Are there other ways to sustain growth in income per person?
- There are really only two ways to do it:
  - Use more inputs per person (for example, build more machines)
  - Use inputs more efficiently (better technology, better allocation of resources, etc.)

Growth From Independence to 1840

- Little data leads to lots of stories
- Standard growth accounting data do not exist
- Paul David (JEH, 1967) proposed a clever solution that doesn't require knowing total GDP:
  - Total output per capita must equal average output per worker times the fraction of the population in the workforce
  - Average output per worker is the weighted average of output per worker in agriculture and output per worker in other sectors
  - David assumes productivity in manufacturing relative to productivity in agriculture was constant (strong assumption)

Growth From Independence to 1840

- David's approach gives us a different way of breaking down the sources of growth in output per capita that doesn't require measuring GDP and the capital stock
- Output per capita can grow because of any or all of the following (somewhat observable) factors:
  - A shift of workers from agriculture to other sectors (productivity was higher in other sectors)
  - An increase in agricultural productivity (which by assumption implies an increase in productivity in other sectors)
  - An increase in the labor force participation rate

Growth From Independence to 1840

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

Growth from Independence to 1840

A few reasons to be skeptical:

- David's growth in agricultural productivity numbers seem big for a period with little technological advance
- Many of David's non-agricultural laborers may have actually been in agriculture
- Manufacturing productivity was likely growing differently than agricultural productivity

Growth After 1840

- We know much more about growth after 1840 because the data gets much better
- Better data allows us to get good measures of output and to break down growth into growth in labor, capital, land and productivity
- The main factors in economic growth since 1840 turn out to be quite different than the main factors before 1840

Growth After 1840

- With good data on output, labor and capital we can turn to standard growth accounting
- This means calculating the contributions of growth in technology (A), labor (L), capital (K) and natural resources (Z)
- For growth in total output:

$$g_Y = g_A + ag_K + bg_L + cg_Z$$

- For growth in output per worker:

$$g_{\frac{Y}{L}} = g_A + ag_{\frac{K}{L}} + cg_{\frac{Z}{L}}$$

- a, b and c represent the share of income that goes to each particular input (if we use a lot of one input, growth in that input will have a big effect on growth in output)

Growth After 1840

Growth Accounting, 1840-1990

	Annual Rate of Growth of:			
Period	Labor	Capital	Land	Output
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

Growth After 1840

Growth Accounting, 1840-1990

	Percentage of Output Growth Attributable to:			
Period	Labor	Capital	Land	Productivity
1840-1860	49%	26%	10%	15%
1870-1930	43	27	4	27
1940-1990	41	14	0	45

Summarizing American Growth

- Population growth has consistently been a big part of overall growth in output
- Growth in land remained relevant throughout the 1800s (until the frontier closed)
- Growth in capital has declined in importance (although growth in capital per worker remains important to growth in output per worker)
- Growth in productivity has really emerged as the biggest factor in explaining growth in output and output per worker
- To put things simply, early American growth was all about extensive growth (expanding land and labor supply), modern growth is all about improving productivity

Putting American Economic Growth in Perspective

Rank	Country	GDP per capita (2010 US dollars)
180	Democratic Republic of Congo	171
179	Liberia	239
178	Sierra Leone	311
145	Kenya	912
	United States, 1710	**952**
144	Nicaragua	972
118	Indonesia	2,329
	United States, 1840	**2,336**
117	Paraguay	2,337
84	Namibia	4,543
	United States, 1880	**4,585**
83	Azerbaijan	4,807
52	St. Kitts and Nevis	10,315
	United States, 1929	**10,640**
51	Lithuania	11,172
37	Oman	18,013
	United States, 1945	**18,079**
36	Czech Republic	18,557
10	Austria	45,989
9	**United States**	**46,381**
8	United Arab Emirates	46,857
7	Netherlands	48,223
6	Ireland	51,356
5	Denmark	56,115
4	Switzerland	67,560
3	Qatar	68,872
2	Norway	79,085
1	Luxembourg	104,512

International Monetary Fund, World Economic Outlook Database, April 2010

Announcements

- This week we'll do a broad overview of American economic growth, next week we'll start on Native American economies
- Readings:
  - For general understanding of what we'll be looking at: Abramitzky (2015) "Economics and the Modern Economic Historian"
  - For next week: Feir, Gillezeau, and Jones (2017) "The Slaughter of the North American Bison and Reversal of Fortunes on the Great Plains"
- We'll discuss the referee report on Thursday
- Thursday office hours will end early (at noon) so that I can get to the Economic History Association meetings

Announcements

- We'll (try to) wrap up our broad discussion of economic growth today and start in on Native American economies next week
- Readings:
  - For general understanding of what we'll be looking at: Abramitzky (2015) "Economics and the Modern Economic Historian"
  - For next week: Feir, Gillezeau, and Jones (2017) "The Slaughter of the North American Bison and Reversal of Fortunes on the Great Plains"
- We'll discuss the referee report right now (first one is due Oct. 10)

Referee Report

- The first referee report is coming up, it is due October 10th at 5pm
- For the first part of today's lecture we're going to talk about what a referee report is
- We'll discuss how the publication process works in economics, how I write referee reports, and how you should write your referee report (which is not the same as how I write mine)
- The key details are contained in a handout posted on our Blackboard site

From Idea to Publication

Here is the basic timeline of an economics paper:

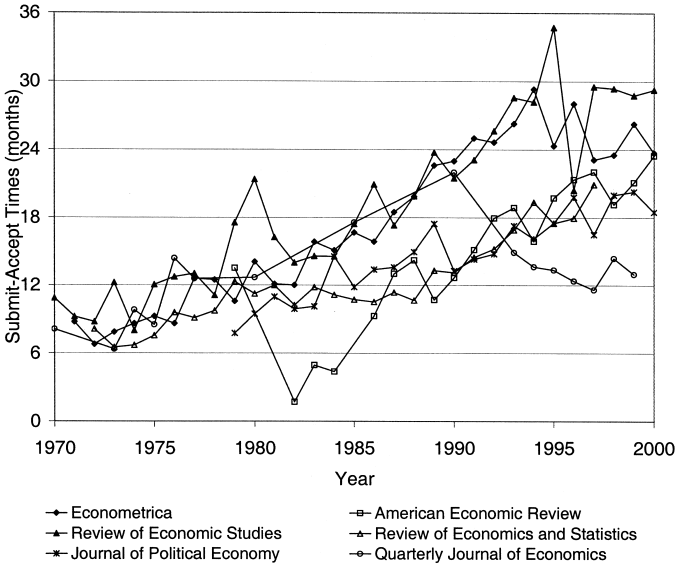
- (1) Come up with the idea, gather data, run regressions, gather more data, run more regressions ...
- (2) Write up a working paper version of the paper
- (3) Present at conferences, workshops and seminars, do more analysis and rewrites based on feedback
- (4) Polish the paper

From Idea to Publication

Here is the basic timeline of an economics paper:

- (5) Send the paper to the best journal you think it has a chance out
- (6) Hopefully receive referee reports and a chance to revise, if not return to steps 3 and 4
- (7) Do everything the referees ask for and send it back to the journal
- (8) Repeat steps 6 and 7 until acceptance or rejection
- (9) If rejected return to steps 3 and 4

From Idea to Publication



From Idea to Publication

TABLE 1
MEAN SUBMIT-ACCEPT TIMES AT VARIOUS JOURNALS

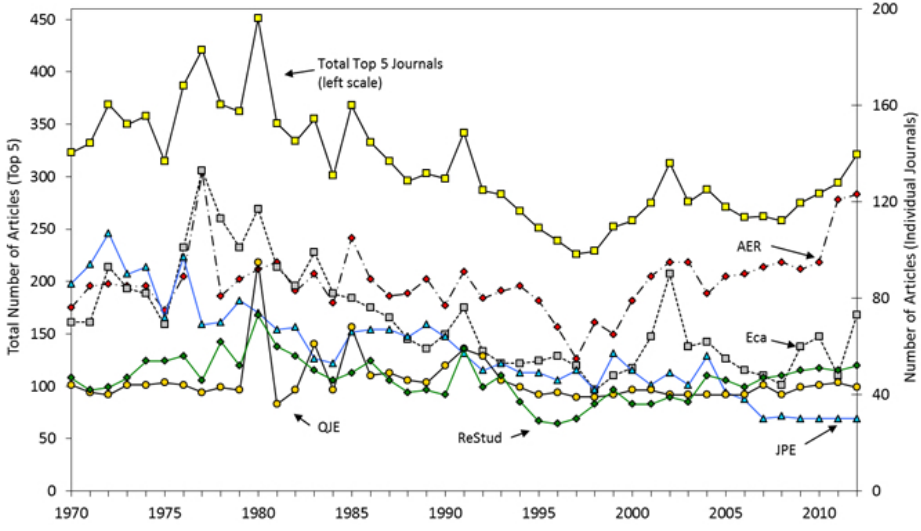
JOURNAL	MEAN TOTAL REVIEW TIME IN YEAR			
	1970	1980	1990	1999
	Top Five General-Interest Journals			
AER		13.5*	12.7	21.1
Econometrica	8.8†	14.0†	22.9†	26.3†
JPE		9.5	13.3	20.3
QJE	8.1	12.7	22.0	13.0
REStud	10.9†	21.5	21.2	28.8
	Other General-Interest Journals			
Canadian J. Econ.		11.3*		16.6
Econ. Inquiry		3.4*		13.0
Econ. J.		9.5*		18.2†
Internat. Econ. Rev.	7.8†	11.9†	15.9†	16.8†
REStat	8.1	11.4	13.1	18.8
	Economics Field Journals			
J. Appl. Econometrics			16.3†	21.5†
J. Comparative Econ.		10.3†	10.9†	10.1†
J. Development Econ.	5.6†‡	6.4†	12.6†	17.3†
J. Econometrics		9.7†	17.6†	25.5†
J. Econ. Theory	.6†	6.1†	17.0†	16.4†
J. Environmental Econ. and Management		5.5†	6.6†	13.1†
J. Internat. Econ.		8.7*		16.2
J. Law and Econ.		6.6*		14.8
J. Math. Econ.	2.2†‡	7.5†	17.5	8.5
J. Monetary Econ.			11.7†	16.0†
J. Public Econ.	2.6†§	12.5†	14.2†	9.9†
J. Urban Econ.		5.4†	10.3†	8.8†
Rand J. Econ.		7.2*	20.0	20.9

From Idea to Publication

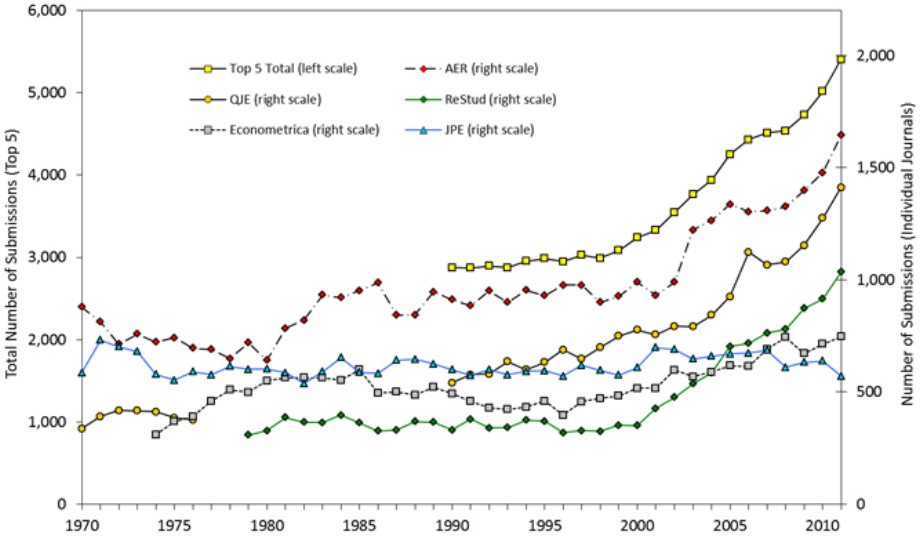
TABLE 3
REVISIONS AT THE *QJE*

	YEAR OF PUBLICATION								
	1940	1950	1960	1970	1980	1985	1990	1995	1997
Mean submit-accept time (months)	3.7	3.8	3.6	8.1	12.7	17.6	22.0	13.4	11.6
Mean number of revisions	.6	.8	.6	1.2	1.4	1.5	1.7	2.2	2.0
Mean number of revisions before acceptance	.4	.1	.2	.5	.8	1.0	1.7	2.2	2.0
Mean author time for first preaccept revision (months)	1.4	2.1	2.0	2.1	3.0	4.2	3.6	4.1	4.7

From Idea to Publication



From Idea to Publication



One Data Point

The National Rise in Residential Segregation

TREVON D. LOGAN AND JOHN M. PARMAN

Exploiting complete census manuscript files, we derive a new segregation measure using the racial similarity of next-door neighbors. The fineness of our measure reveals new facts not captured by traditional segregation indices. First, segregation doubled nationally from 1880 to 1940. Second, contrary to prior estimates, Southern urban areas were the most segregated in the country and remained so over time. Third, increasing segregation in the twentieth century was not strictly driven by urbanization, black migration, or white flight: it resulted from increasing racial sorting at the household level. In all areas—North and South, urban and rural—segregation increased dramatically.

The importance of residential segregation in explaining modern racial differences in socioeconomic outcomes is well known. There are a variety of studies linking segregation in the United States to schooling and labor market outcomes for African Americans (Kain 1968; Cutler, Glaeser, and Vigdor 1999; Cutler and Glaeser 1997; Collins and Margo 2000). Segregation has also been shown to impact the health of African Americans through a lack of access to health care (Almond, Chay, and Greenstone 2006). Additionally, there is a growing literature on the importance of neighborhood effects and social networks suggesting that segregated neighborhoods could contribute to racial gaps in a variety of socioeconomic outcomes (Case and Katz 1991; Brooks-Gunn et al. 1993; Borjas 1995; Cutler, Glaeser, and Vigdor 2008; Ananat 2011; Ananat and Washington 2009; Echenique and Fryer 2007). It is clear that any explanation of modern racial differences in socioeconomic outcomes must consider the effects of residential segregation on a host of factors.

The Journal of Economic History, Vol. 77, No. 1 (March 2017). doi: 10.1017/S0022050717000079

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We thank Rodney Andrews, David Blau, Shari Eli, Joe Ferrie, Judge Glock, Daeho Kim, Allison Shertzer, Randall Walsh, Richard Steckel, seminar audiences at Michigan, Occidental, UC-Riverside, UC-Irvine, Yale, American University, Pomona College, UT-Dallas, Virginia Commonwealth University, Dalhousie University, The Ohio State University, ASSA Annual Meetings, and NBER Summer Institute provided welcome suggestions. William D. Biscarri, Nicholas J. Deis, Jackson L. Frazier, Adaeze Okoli, Terry L. Pack, Stephen Prifti and Colin Weinshenker provided excellent research assistance.

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Six years and roughly 15 referee reports (too painful to go back and double check).

The Referee Process

- Peer review at economics journals is intended to accomplish two things:
  - Ensure the technical correctness of articles
  - Ensure that articles significantly add to our body of knowledge
- The referee assesses a paper both for correctness and for the novelty and size of its contribution
- The referee relays this assessment to the editor
- The referee also prepares a report for the authors, summarizing the paper and highlighting its strengths and weaknesses
- This report typically contains suggestions for improving the paper

The Referee Process

Time to try something ill-advised...

The Referee Process

Now let's look at some sample referee reports and talk about what I expect in your reports.

Your Referee Reports

- You will complete two referee reports due **October 10th** and **November 9th**
- The first referee report will be on Galenson (1981) "The Market Evaluation of Human Capital: The Case of Indentured Servitude" *Journal of Political Economy*, 89(3), 446-467
- The second referee report will be Abramitzky, Boustan and Eriksson (2014) "A Nation of Immigrants: Assimilation and Economic Outcomes in the Age of Mass Migration" *Journal of Political Economy*, 122(3), 467-506
- Why these two articles?
  - (Relatively) accessible in terms of the empirics
  - Demonstrate how top econ history journal articles have evolved
  - Have a lot of inherent limitations (offering things for you to critique despite being published articles)

Your Referee Reports

- Your reports should be roughly four to five pages, double-spaced
- Summary should be half of that, critiques should be half (different than my reports)
- Summary section should accomplish the following:
  - Identify the question being asked and why it is (or isn't) important
  - Describe the *key* elements of the data and methodology
  - Summarize *key* results and explain why the are (or aren't) meaningful
  - Explain why you do (or don't) find the paper important and convincing

Your Referee Reports

- Your reports should be roughly four to five pages, double-spaced
- Summary should be half of that, critiques should be half (different than my reports)
- For the critiques section:
  - I expect three major critiques or two major plus multiple minor critiques
  - Consider issues with data quality, empirical approach, sample selection, omitted variables, alternative explanations...
  - For each critique, explain why it would impact interpretation or generalizability of the results
  - Also be certain to offer concrete suggestions for improvement (don't worry if they are feasible)
  - Issues with paper structure, figure formatting, etc. fall under minor critiques

Your Referee Reports

- You won't necessarily understand the econometric details of these papers but you should be able to follow the general logic
- We'll start Tuesday's class with a short primer/refresher on how to interpret regression coefficients
- If you are unsure what the author means by something, or how to interpret a table, or anything else, just ask!
- I'm happy to answer your questions about the papers in office hours or over email
- I'm also happy to give feedback on drafts (or partial drafts)
- Give yourself enough time, it takes me a couple of readings through a paper before my take as a referee starts to crystalize