Economics 1: Fall 2010

J. Bradford DeLong, Michael Urbancic, and a cast of thousands...

http://delong.typepad.com/econ_1_fall_2010/
Ladies and Gentlemen, to Your i>Clickers...

• What is the most likely outcome for the U.S. budget come 2060?
  – A. We will have raised taxes to pay for government health spending.
  – B. We will have cut doctors wages and enslaved them by drafting them into a socialist national health service.
  – C. We will have abandoned our commitment to providing state-of-the-art health care to the sick and not just the wealthy.
  – D. The health care fairy will have figured out a way for us all to have all the medically-appropriate care we need for a surprisingly low private and public budgetary cost.
  – E. The federal government as we know it will have collapsed, and those of us still alive will be starring involuntarily in a remake of “Mad Max: Beyond Thunderdome”
Administrivia

• Complex dance for the midterm...
  – Want to get more space...
  – Want to avoid the ten-minute cattle drive...
    • Ashley, Attila, Ignacio, Sinaia, and Stephen sections will take the midterm in Lewis 100
    • Anne, David, Gautam, Haozhe, Michaela, and Sandley sections will take the exam in Wheeler Auditorium

• Reviews for midterm...
  – Friday here, 12-1...

• Thank you for taking the midterm...
  – It’s about us, not about you—feedback device...
Economics 1: Fall 2010: Economic Growth

J. Bradford DeLong

September 27, 2010, 12-1
Wheeler Auditorium, U.C. Berkeley
Ladies and Gentlemen, to Your i>Clickers...

• When was the Neolithic Revolution—the invention of agriculture?
  – A. 50,000 BC
  – B. 10,000 BC
  – C. 3,000 BC
  – D. 400 BC
  – E. 1 AD
The Bird’s Eye View: Before the Invention of Agriculture

• Population Status
  – Maybe 100K in 48,000 BC?
  – Buff
    • And tall
  – Short-lived—life expectancy of 25?
  – Maybe 5M in 8000 BC?

• Growth rate:
  – That is \( 40000/25 = 1600 \) generations
  – \( \ln(50) = 4 \)
  – \( 4/1600 = 0.0025 = 0.25\%/\text{generation} \)
    • A healthy settled population with ample food doubles every generation

• Life was nasty
  – You live a healthy life, but you watch your children die, and you die young
The Bird’s Eye View: Agrarian Societies

- Population Status
  - Maybe 5M in 8200 BC?
  - Short: from 5’9” to 5’1”
    - Upper classes different
  - Lose your teeth
  - Petri dishes for bacteria
  - Maybe 750M by 1800?

- Growth rate:
  - That is 10000/25 = 400 generations
  - ln(150) = 5
  - 5/400 = 0.0125 = 1.25%/generation
    - A healthy settled population with ample food doubles every generation

- Life was brutish—and short
  - Life expectancy of 25?
  - And you are really bored
  - Your back doesn’t do too well either

- So you live an unhealthy life, and you watch your children die, and you die young
Guessing at Some Numbers

• Growth rates of population
  – HG: 0.01%/year
  – AS: 0.05%/year
  – EM: 0.2%/year
  – >1800: 1.0%/year

• Growth rates of technological and organizational knowledge
  – HG: ????
  – AS: 0.01%/year
  – EM: 0.09%/year
  – IS: 2%/year

• Growth rates of global GDP
  – AS: 0.05%/year
  – EM: 0.2%/year
  – EIS: 1.4%/year
  – IS: 3.4%/year
The Big Historical Questions

• What happened after 1800, and even more so after 1900?
  – We call it the Industrial Revolution

• What happened after 1500?
  – Not the market economy
  – Limited government
  – The Columbian Exchange

• What did not happen before 1500?
  – They were, after all, about as smart as we are...

• We are going to dodge the big historical questions
  – Simply note that they exist, and go on to describing what is
1800
The Great Divergence to 1968
Convergence to 2009
Why Divergence to 1968?

• The agrarian legacy  
  – China’s population has grown by a factor of 7 since 1800  
  – Egypt’s by a factor of 30  
  – If most of your people are still unmechanized farmers, that is a huge set of headwinds

• The infrastructural task  
  – Even if most of your people aren’t unmechanized farmers and live in cities, a rapid population growth rate means a large investment burden

• Difficulties of technology transfer

• Difficulties of government  
  – Communism  
  – Corruption
Ladies and Gentlemen, to Your i>Clickers...

• Were Chinese living standards on average?
  – A. Higher in 1820 than in 1968, and higher today than in 1968.
  – B. Higher in 1820 than in 1968, and higher in 1968 than today.
  – C. Lower in 1820 than in 1968, and higher in 1968 today?
  – D. Lower in 1820 than in 1968, and higher today than in 1968?
Why Convergence After 1968?

- End of High Communism
- Expansion of world trade
- Technology transfer
- But if you look at it, the big difference between before 1968 and after 1968 is the different destinies of two countries
  - China
  - India
  - If you count one-country-as-one, rather than one-person-as-one, it is hard to see a pattern
Test Your Knowledge

• What was the rate of population growth before the Neolithic Revolution?

• What was the rate of population growth during the Agrarian Age?

• What do we know about average living standards both before the Neolithic Revolution and during the Agrarian Age?

• What do we know about the pace of improvement of global knowledge during the Agrarian Age?

• How does the pace of growth of global knowledge during the Agrarian Age compare to the pace of growth since the Industrial Revolution began?