U. S. Economic Growth: Looking Far Into the Future

Robert J. Gordon

Stanley G. Harris Professor in the Social Sciences, Northwestern University, and NBER

International Conference on Growth Engines for Korea, July 24, 2003
To Look Forward, We Need Two Components

• First, to understand late 1990s boom and subsequent 2000-2003 U. S. slowdown

• Second, to take a longer-term look out over 10, 20, even 75 years

• My role on the Social Security Advisory Board helps look far out
The Paradox of ICT Investment and the Productivity Growth Revival

• Post-1995 productivity growth revival still going strong, 2000-2003 as strong as 1995-2000

• Keeps inflation low, allows Fed to promote growth without concern for inflation

• Current consensus; productivity revival *entirely* caused by late 90s investment boom
But Here’s the Paradox

• ICT Investment Boom Has Died, Bad News for Productivity
• Bad News vs. Good News, how can we make sense of this?
  – ICT Investment is the bad news
  – Continuing strong productivity the good news
• Why is productivity doing so well when ICT investment is doing so badly?
• Has the role of ICT Investment Been Exaggerated?
Productivity Growth in the NFPB Economy: Actual and Trend

NFPB
C6 Actual productivity growth and HP 6400 growth
Reasons for Skepticism about the Standard Decomposition

• Delay (analogy with electricity in the 1920s)

• Retailing in the 1990s: all the big boxes

• Europe: retail is where the gap is

• U. S. States: no role for ICT use
Why Won’t ICT Investment Come Back?

• This is the Bad News
  – For Productivity Growth (but ICT role exaggerated)
  – For the Economic Recovery

• Two Reasons
  – Macro (total economy)
  – Micro (special aspects of ICT Boom)
The Macro Triangle: The “New Economy” ICT Boom Didn’t Happen in Isolation

- The “triangle approach”
  - Why the ICT investment boom and bust?
  - Stock market: causes and effects
  - Economy-wide factors: productivity growth, inflation, monetary policy
The Five Beneficial Supply Shocks that Held Inflation Down

- Productivity Growth Revival
- Appreciation of Dollar 1995-early 2002 reduced growth in Import Prices
- Energy Prices, trough in early 1998 fueled expansion
- Temporary Hiatus in Medical Care Prices
- Faster Computer Price Deflation ("New Economy")
The Micro Side: Does Supply Create its Own Demand?

- Moore’s Law Cycle Time is About Supply, but Economics is About Supply and Demand

- Demand Fundamentals of the late 1990’s: One-time-only sources of ICT Demand
Falling Prices Doesn’t Mean that Real Investment will Rise

Ratio of Computer Investment to Nominal GDP
1960-2002
Future Output Growth in the 21st Century: 4.0% or 1.8%?

- The most optimistic, Jim Glassman of JP Morgan
  - Long-term unemployment = 4.0
  - Potential GDP growth = 4.0

- Vs. Social Security Assumptions
  - Potential GDP growth = 1.8

- Will Real GDP in 2078 be $38.5 trillion or $200 trillion?
Where does the 1.8% Come From?

- Social Security Trustees:
  - After 2020, productivity growth of 1.6 (GDP concept, 2.1 for nonfarm private business)
  - Population growth slows down from 1.0 to 0.2
  - Major implications for the U. S. and other economies of a slowdown in potential output growth
First Issue, fertility

• American Exceptionalism
  – Italy, Spain, Russia fertility rate =1.3
  – U. S. recently 2.0 to 2.1

• Soc Sec prediction stays at 1.95

• Wild card – fertility of immigrants
Mortality

- How fast will the age-adjusted death rate decline?
- Special story about 1968-82, -1.2 percent per year
  - Medicare, Medicaid
  - Smoking?
- Otherwise, more like -0.4 to -0.5
- Early 20th Century
Immigration! The Big One!

• The Positive Benefits of Immigration to the United States

• Koreans change our lives
  – Dry cleaners in Chicago and many other cities
  – Flowers on street corners throughout Manhattan
The Numbers are Astounding

• Forget about the “border states” (CA, AZ, NM, TX)

• In the Chicago metropolitan area more than 20% are foreign born in 2000 Census
  – Hispanics, Poles, Korea, Pakistan, India, Russia

• Every ATM machine now asks first for language
How Much Difference Does it Make?

- The Social Security Assumption
  - Fixed immigration at 1997 level
  - Implies population in 2078 of 410 million

- The Alternative Assumption
  - Actual growth in immigration 1970-02 of 3.4%
  - Say 2.0% in the future

- This creates a U. S. population in 2078 of 610 million

- Population growth rate 1.0 instead of 0.2.
Conclusion

• Steady growth, albeit slower than 1995-2002
• Surprising role of population growth
• Big issues about “American Exceptionalism”
  – Fertility
  – Hours of Work
  – Why Hasn’t Europe duplicated American achievement in computer using industries?