

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

Robert J. Gordon

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

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# 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

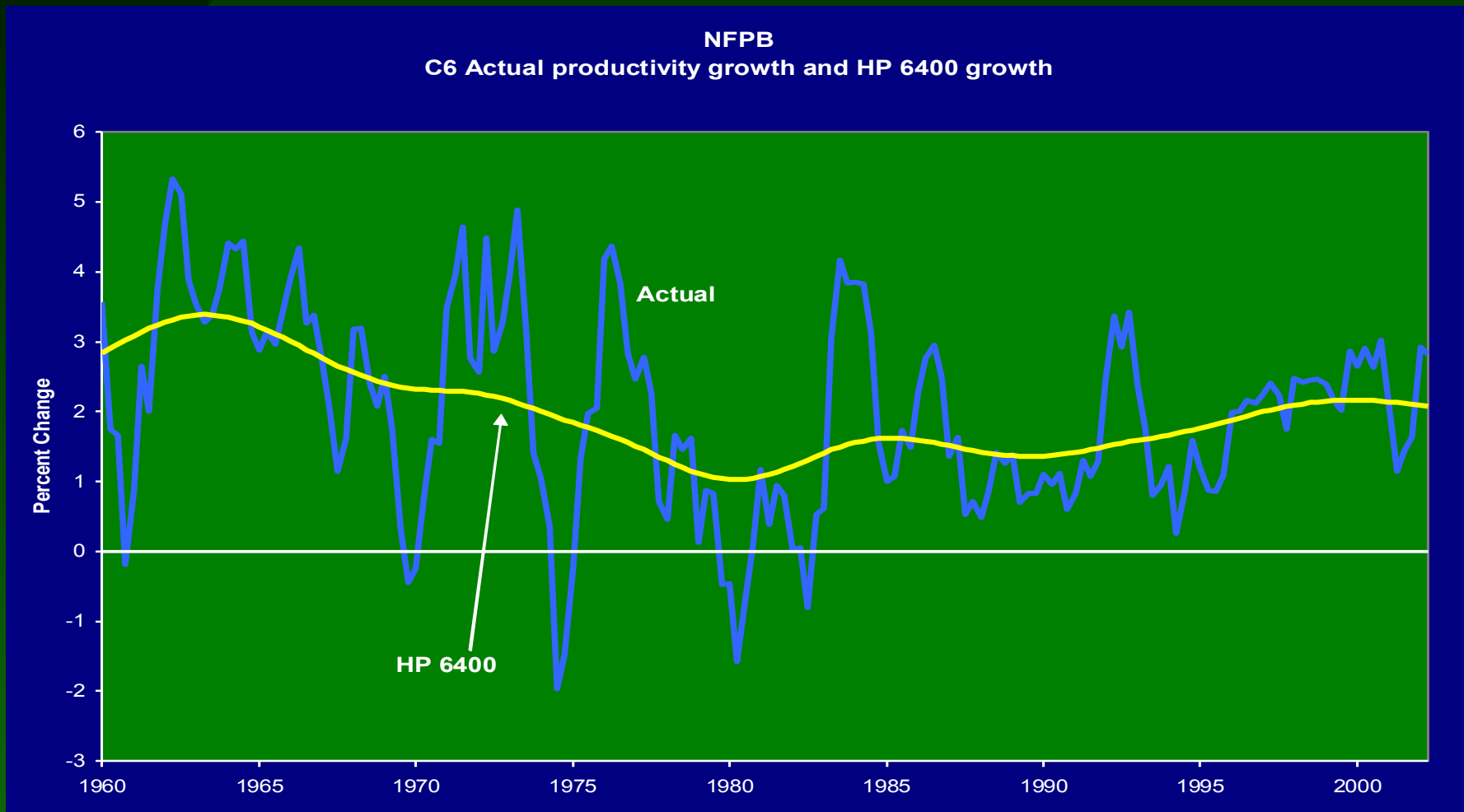
# The Paradox of ICT Investment and the Productivity Growth Revival

- 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



# 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 21<sup>st</sup> 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 20<sup>th</sup> 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 immig 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?