Unsustainable Elements in the New Economy: Will a Future Economic Expansion Ever Match the Euphoria of the late 1990s?

Robert J. Gordon

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

NABE 44th Annual Meeting, Capital Hilton, Washington DC, September 30, 2002

Main Theme: Why the late 1990s U. S. New Economy Boom was Unique and Won’t be Repeated

- Some Optimistic Forecasters think we are going back to 1995-2000
- Optimists About the Future are Led by Those Who Believe that Moore’s Law Has Gone from an 18 month cycle to a 12 month cycle.
- *IN CONTRAST,* There are two complementary approaches to why the late 90s were unique

Historical Analogies to the end of the late 90s IT Investment Boom

- Sir Edward Grey, August 3, 1914
- “The lamps are going out all over Europe; we shall not see them lit again in our lifetime.”
- Will the Late 90s ICT Investment boom Occur Again in our Lifetime?

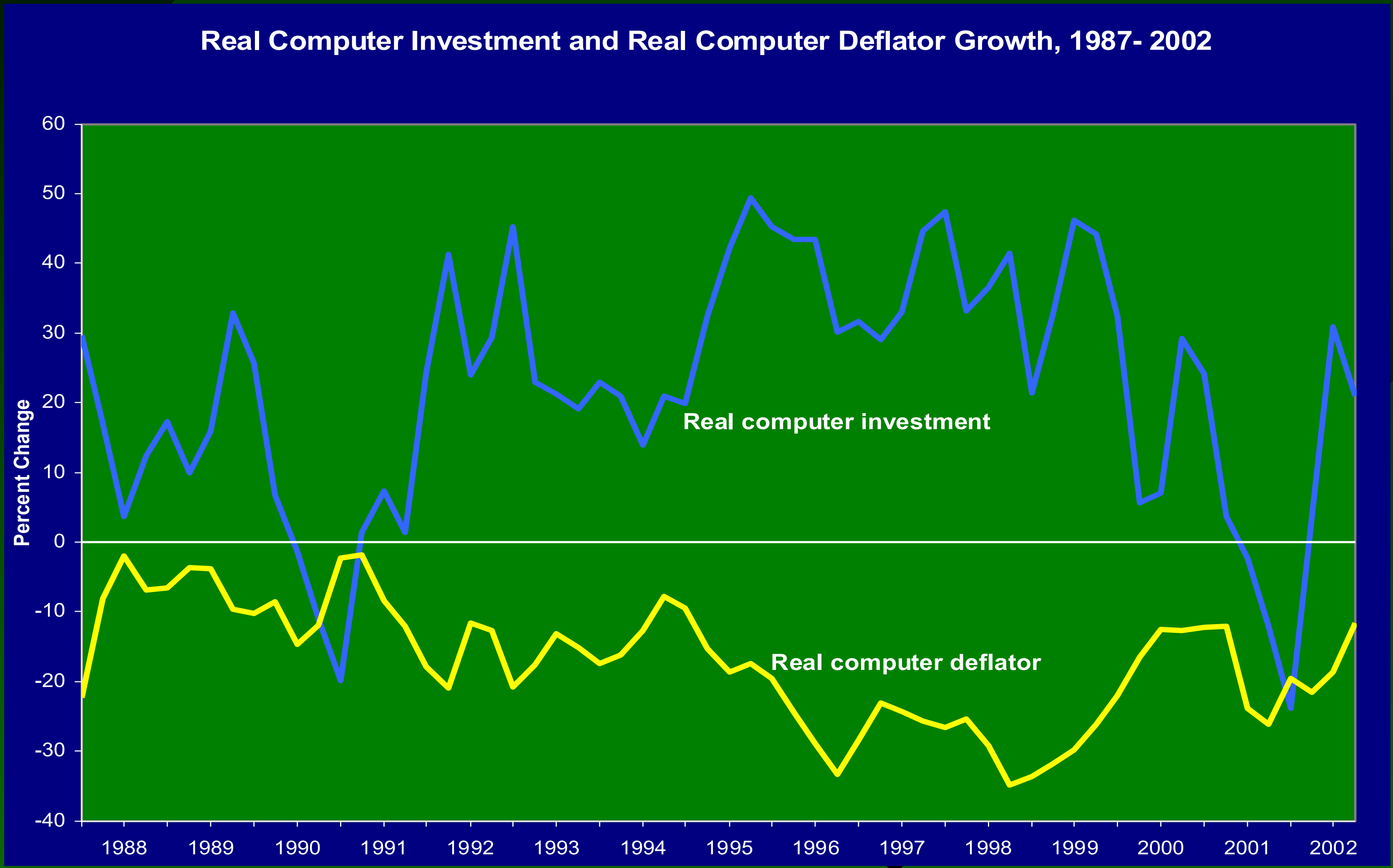
First Cluster of Unique Aspects: The "New Economy" ICT Boom Didn't Happen in Isolation

- The "triangle approach"
  - Why the ICT investment boom and bust?
  - Stock market: causes and effects
  - Economy-wide factors: productivity growth, inflation, monetary policy

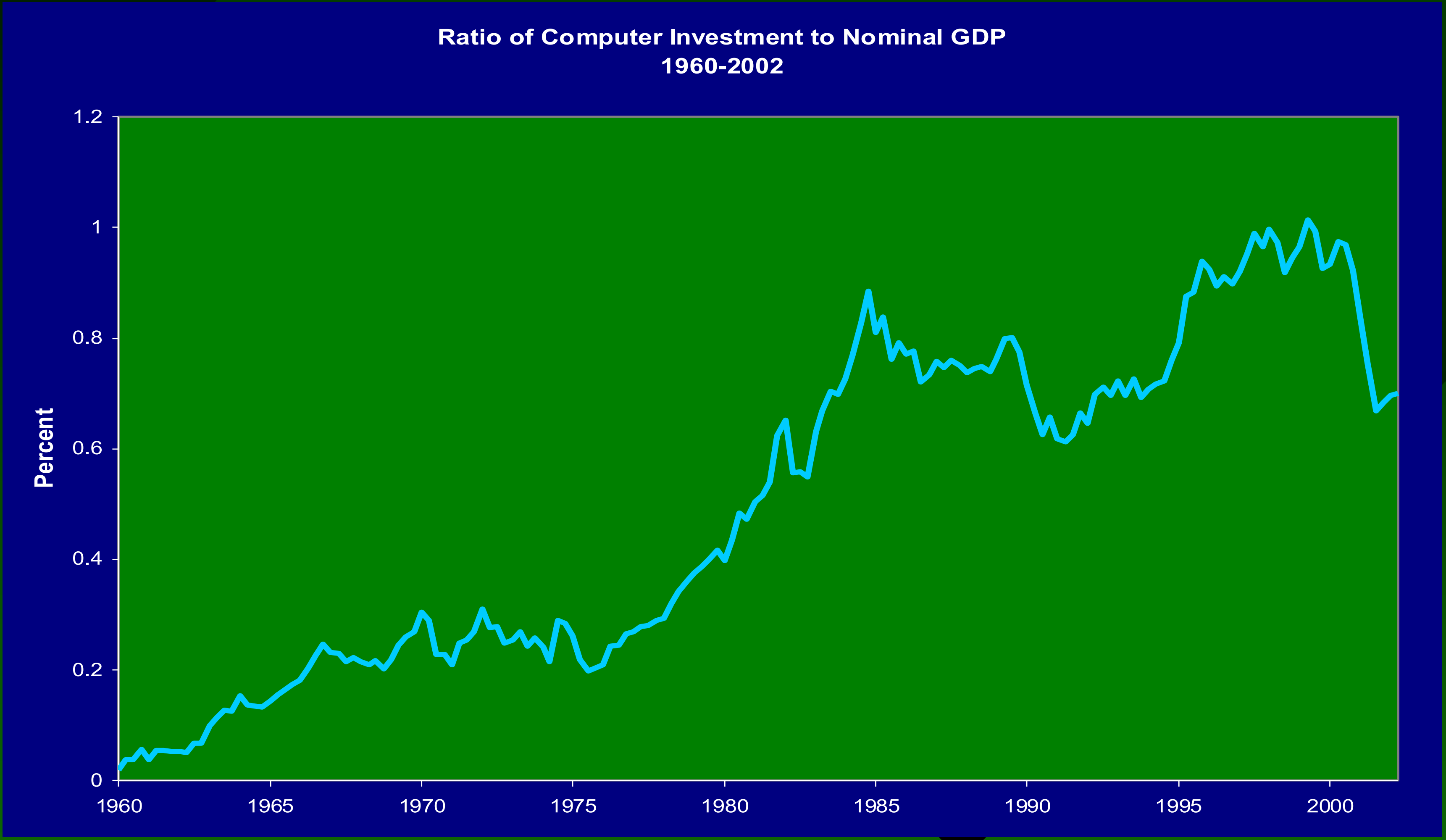
Second Cluster of Unique Aspects: Supply and Demand Came Together in the late 1990s

- 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

Triangle Side #1: The Investment Boom and the Bust



Falling Prices Doesn't Mean that Real Investment will Rise



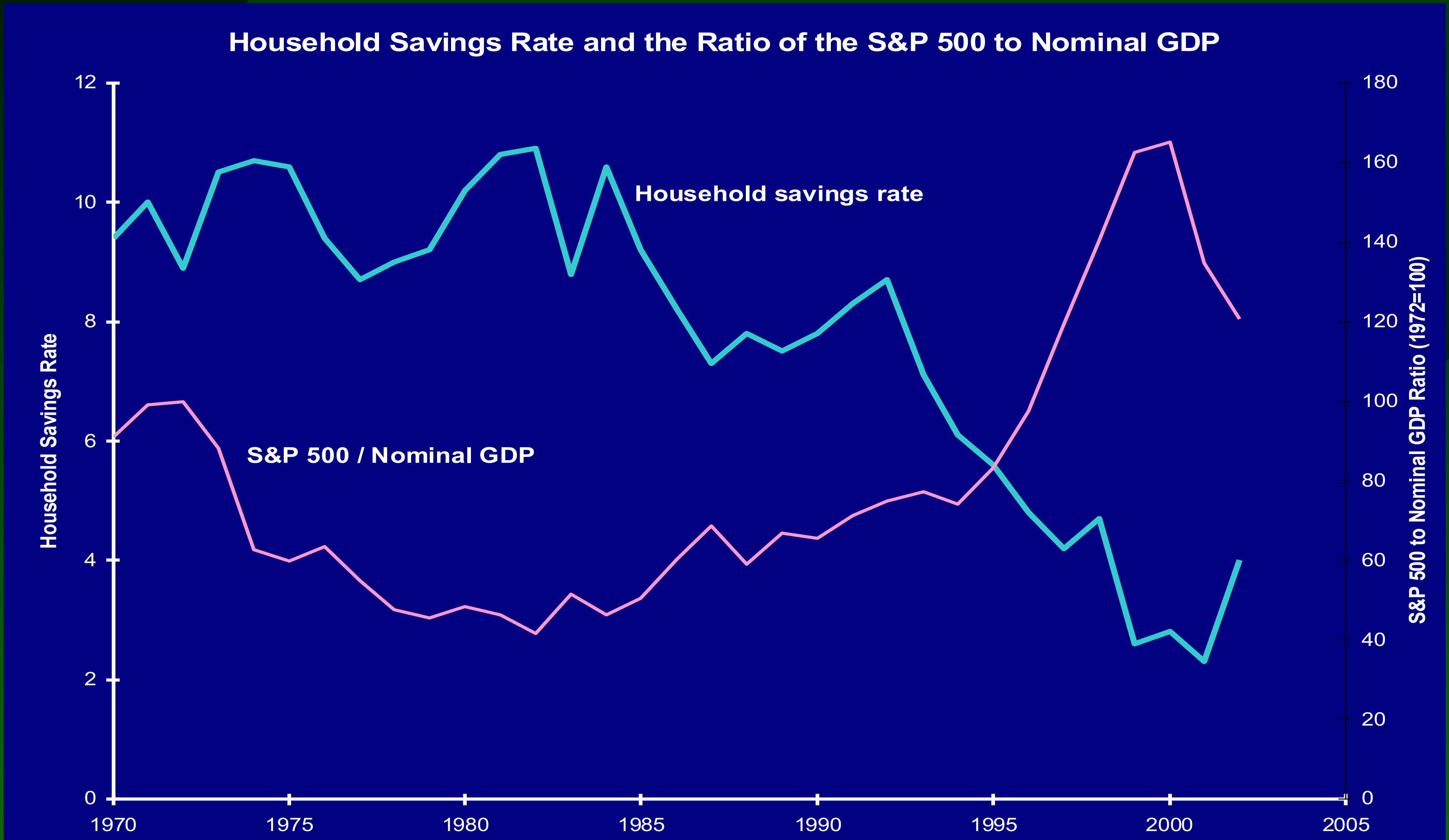
Triangle Side #2: What Fueled the Stock Market?

- Profit growth on top of rising P/E ratio
- Optimism, economy-wide boom
- Defined-contribution pension plans led to belief that all ancient P/E benchmarks were wrong
- Well-timed Warnings in March/April 2000:
  - Shiller’s “Irrational Exuberance”
  - Mandel’s “Coming Internet Depression”
  - RJG: “Does the `New Economy’ Measure up to the Great Inventiions of the Past?”

Stock Market Effects

- Financed Hi-tech investment boom
- Caused a collapse in the personal saving rate
- Propelled consumption growth above income growth for 4 straight years

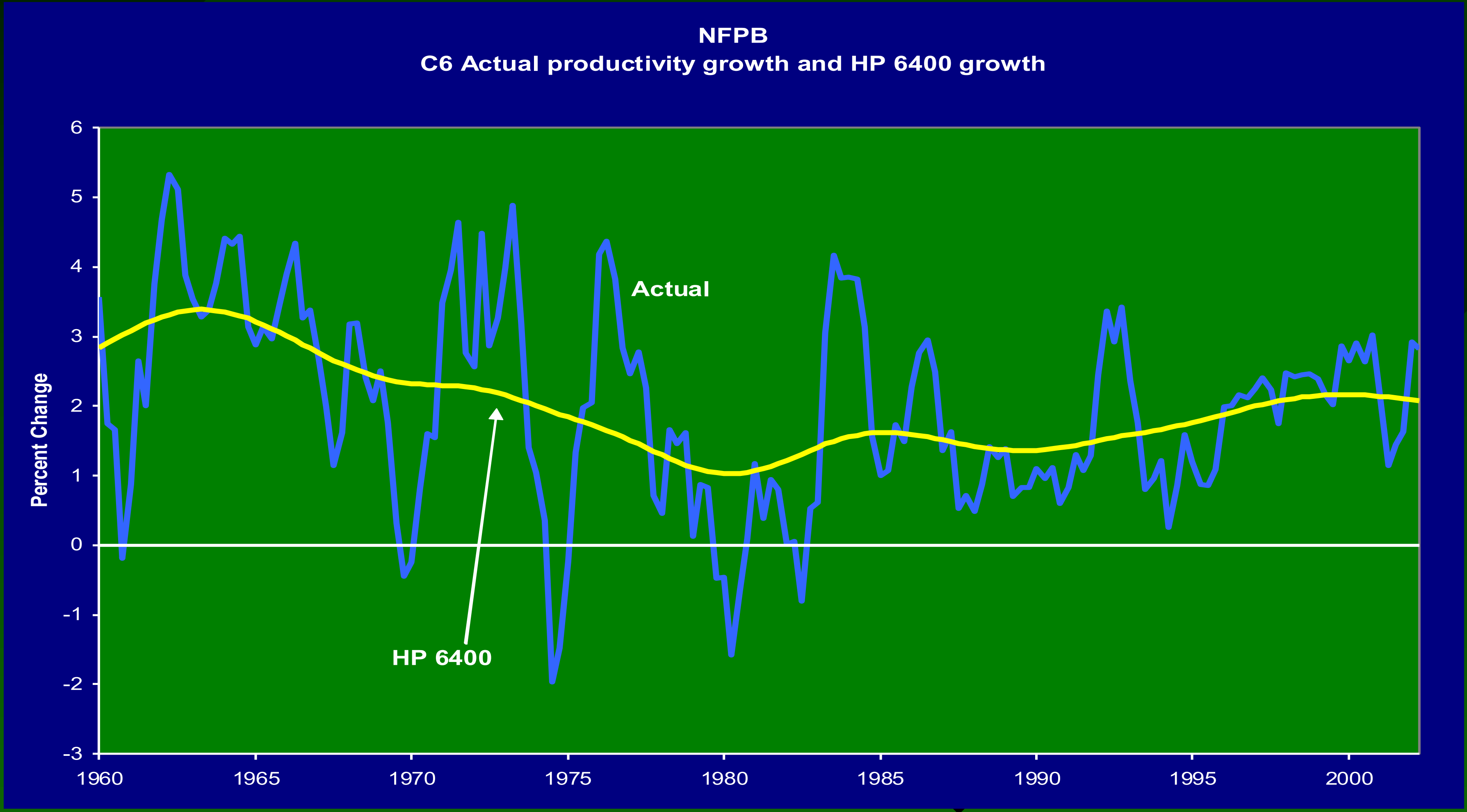
Stock Market reduced Saving and Boosted Consumption



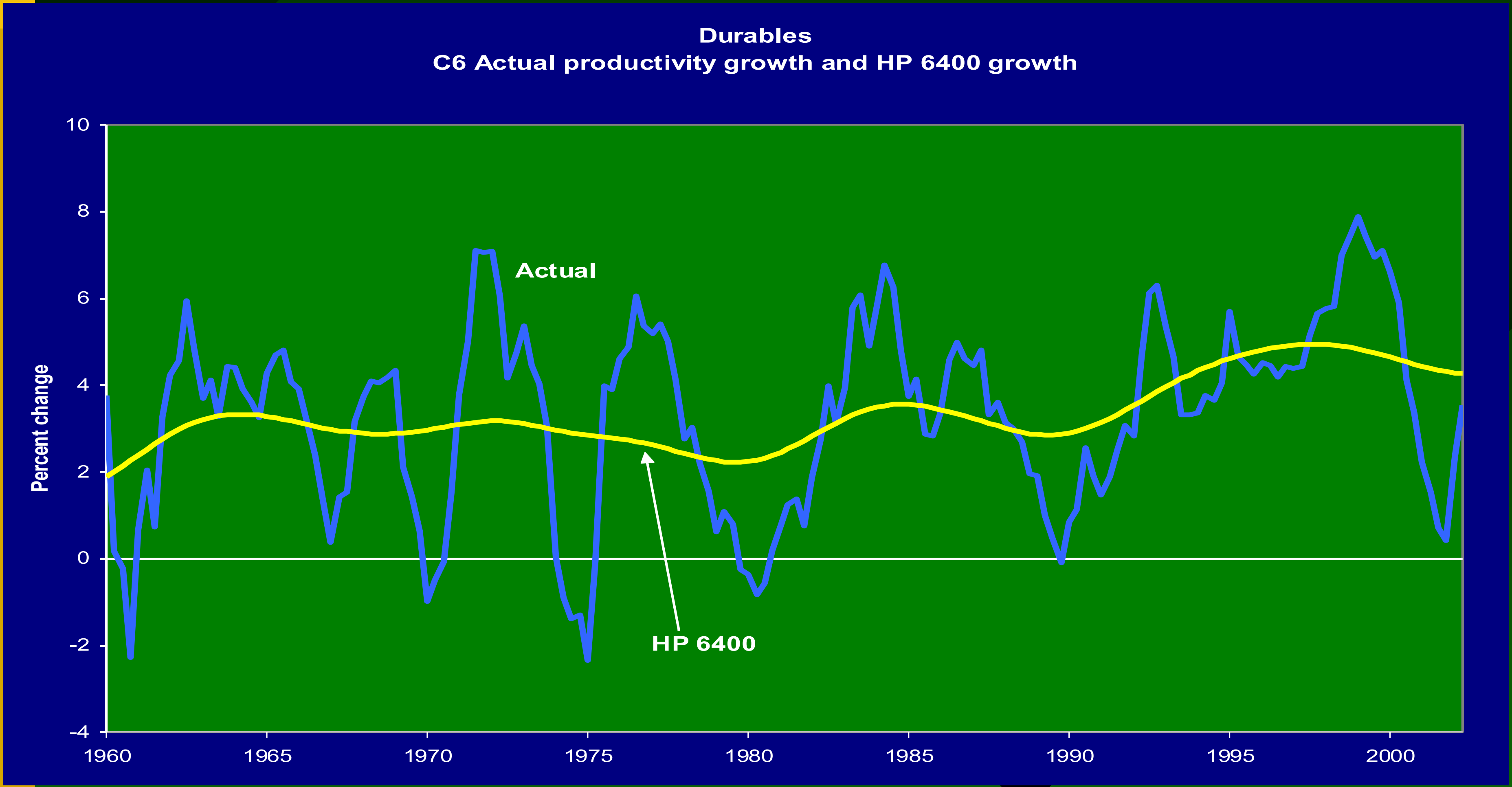
Triangle Side #3: Productivity/Inflation/Monetary Policy Nexus

- Productivity growth revival
  - Boosted sustainable GDP (income) growth
  - Inflation low partly because of productivity behavior
  - Four other beneficial supply shocks

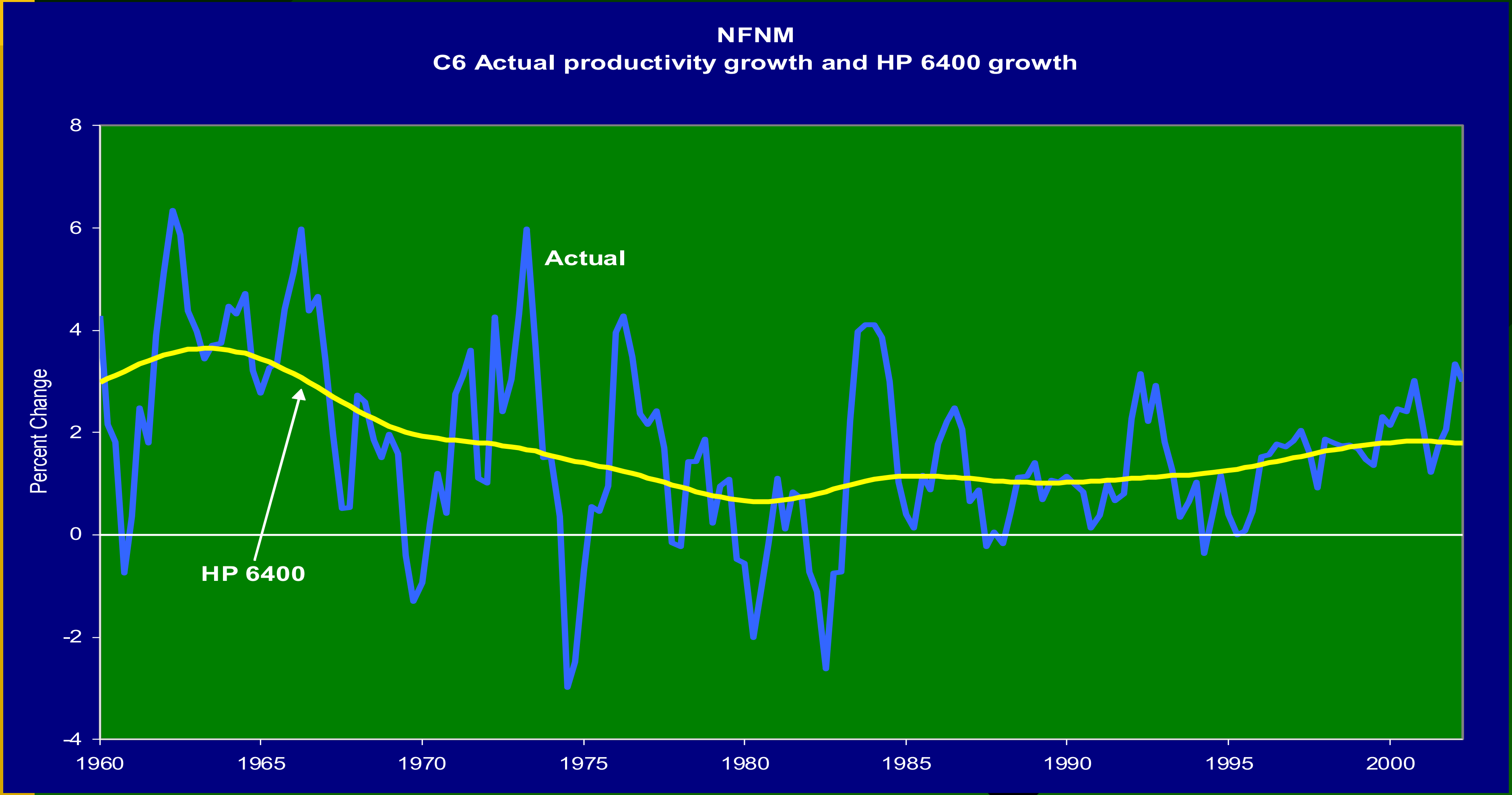
Productivity Growth in the NFPB Economy: Actual and Trend



Durables Manufacturing: No Slowdown and late 1990s Explosion



NFNM: Much Less Impressive Compared to Kennedy Heyday



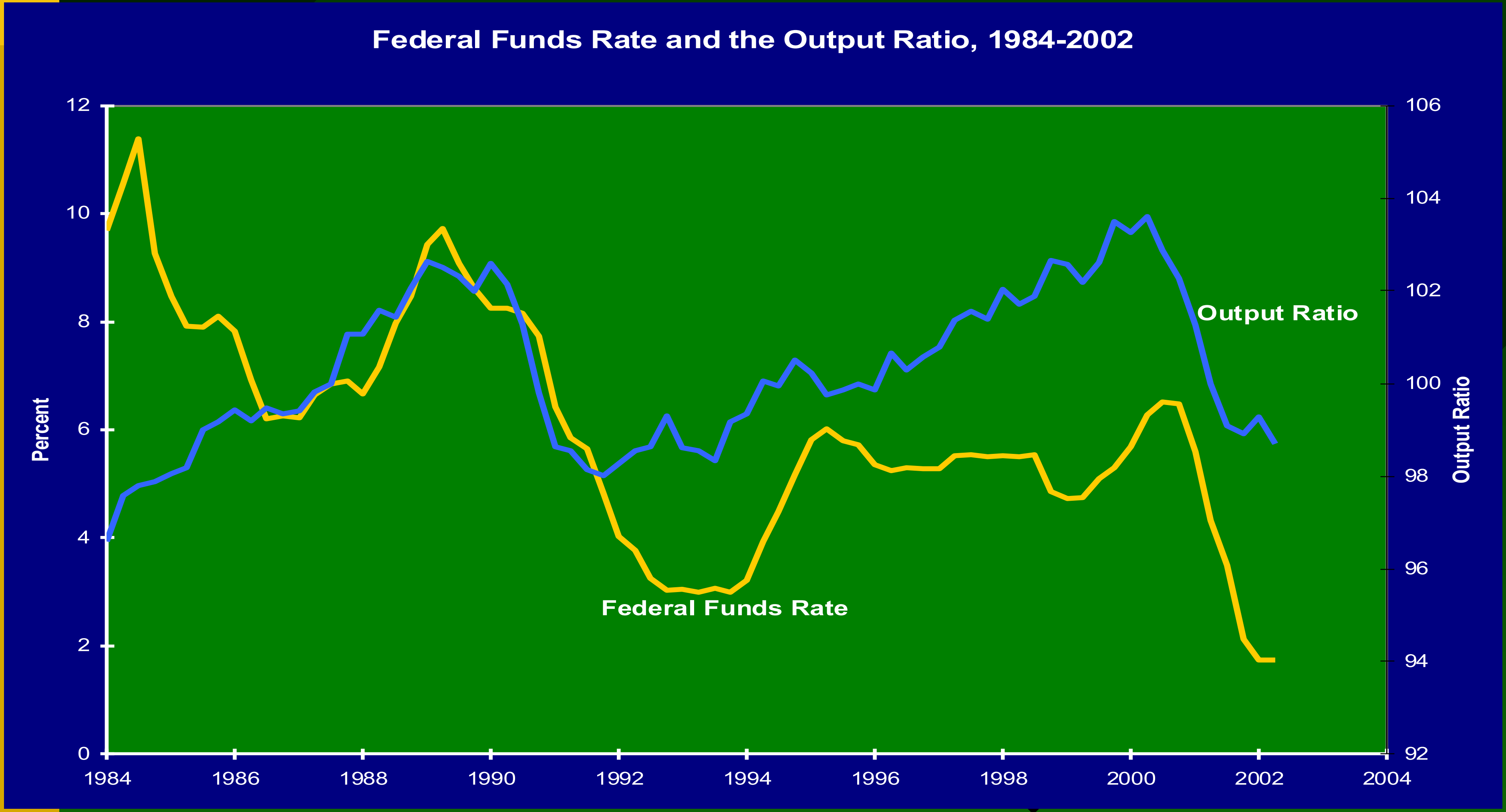
How Productivity Growth Revival Supported the Investment Boom

- Raised Potential Output and Income Growth
- At Given Saving Rate, Increases Consumption Growth
- If there is Inertia in Nominal Wage Behavior, Reduces Unit Labor Cost Growth and Holds Down Inflation

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 Benign Fed: Contrast with the Late 80s and Early 90s



Review: The Two Reasons why the late 1990s Won’t Happen Again

- Cluster of Reasons #1: Triangle of interconnections between investment boom, stock market, and temporary economy-wide beneficial supply shocks
- Cluster of Reasons #2: Moore’s Law Affects Supply, but Demand Doesn’t Automatically Keep Up

One-time-only Demand Elements in the late 1990s Hi-Tech Investment Boom

- (1) Today: the least controversial is the vast overbuilding of fiber-optic telecom capacity
  - Never before in economic history has supply ever outrun demand at a remotely similar pace
  - Many firms buying telecom investment goods were CLECs and other companies that soon went out of business
- (2) Similarly, much demand for computer hardware and software was created by dot.coms now out of business

Deeper One-time-only Reasons why the Investment Boom Couldn’t Last

- (3) The WWW could only be invented once
- (4) Y2K compressed the replacement cycle
- (5) MS is falling behind Intel -- the most profound reason of all?
- (6) Unsustainable slippage in accounting standards and corporate governance

Let’s put some numbers on these separate contributions of ICT

- 1995-2001 vs. 1972-95, how big was the productivity revival?
  - Biggest number, ERP Jan 2001, ~1.5
  - Now more like ~0.8
- Why the lower number?
  - Data revisions July 2001 and 2002
  - The cyclical effect really happened in 2001 as predicted

Current Decomposition, Productivity Growth 95-01 vs. 72-95

- Latest Numbers: Oliner and Sichel (August 2002 post rev)
- Top line: Acceleration of 0.8
- Faster MFP in IT Production: 0.3
- Capital Deepening in *Use* of IT: 0.5
- Left over for a Sustained Trend Acceleration in MFP not caused by Faster Growth of IT Investment: 0.0
- No cyclical effect, but can make this negative with subtle measurement inconsistencies

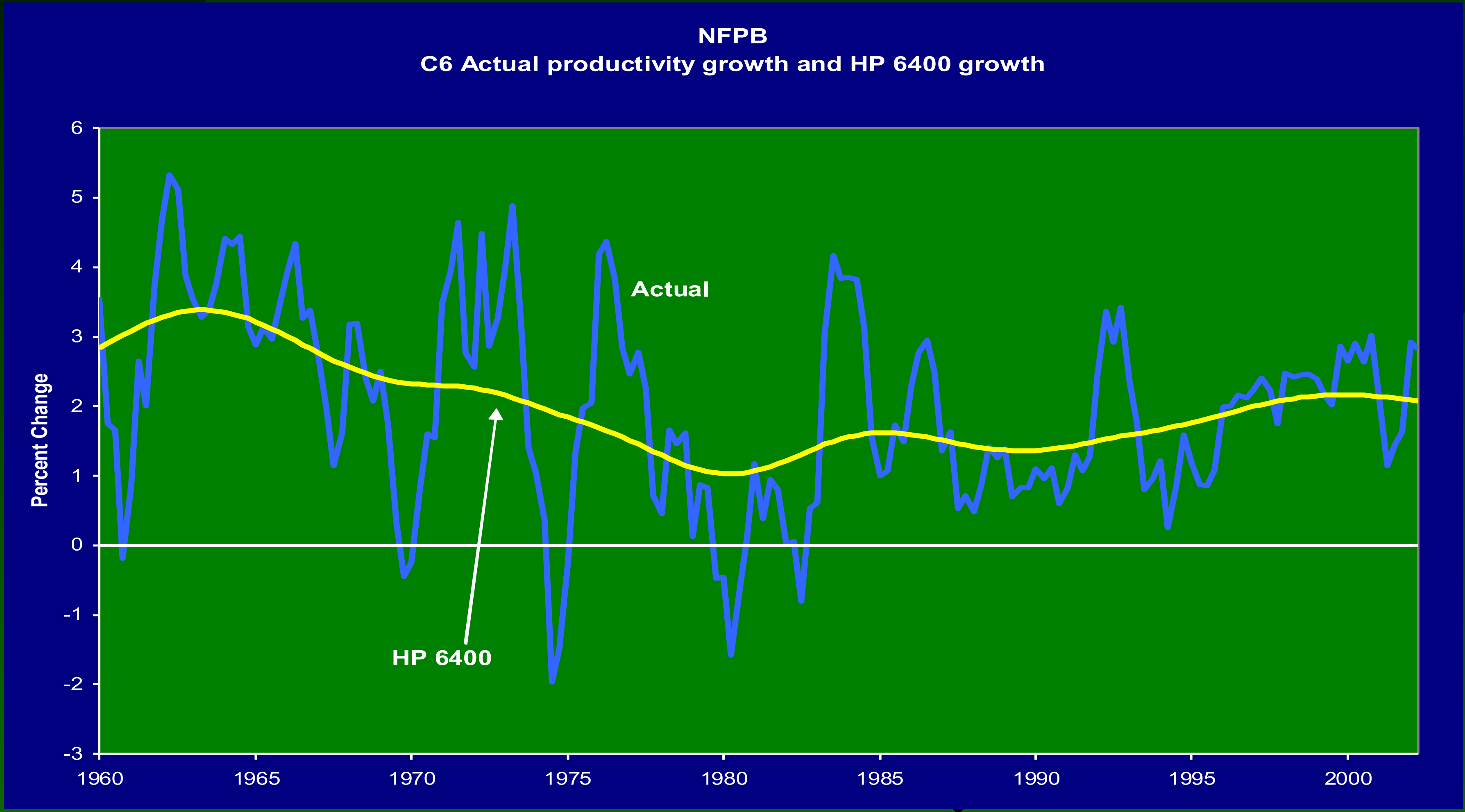
Reconciling the Evidence

- McKinsey, Bosworth-Triplett, Nordhaus point to healthy productivity growth in service sector
  - Led by wholesale, retail, securities
- Compatible with previous decomposition, most of 0.5 from Computer *USE* has occurred in wholesale, retail, securities

Looking to the Future, We Need to Understand Better the Cyclical Behavior of Productivity Growth

- Not Related to Timing of Recessions
- The Growth Rate of Productivity Depends Positively on the Growth Rate of Output
  - 1995:Q4-2000:Q2 Q=4.78, Q/H=2.59
  - 2000:Q2-2001:Q3 Q=-0.79, Q/H=0.6

Productivity Growth in the NFPB Economy: Actual and Trend



Notice Two Aspects of that Chart

- Actual 6-qtr moving average well above HP trend in 1999-2000
- When were big spurts of actual 6-qtr growth?
  - 1991-92
  - 1982-83
  - 1975-76
- Thus Cyclical Effect has Two Dimensions
  - Sensitivity to Output Growth
  - End-of-recession bubble

The Winter 2001-02 Productivity Bubble

- Bubble Growth, next 8 qtrs AAGR
  - 2001:Q3-2002:Q2   5.46   ????
  - 1991:Q1-1992:Q1   4.01   1.15
  - 1982:Q3-1983:Q3   5.19   1.58
  - 1975:Q1-1976:Q1   4.63   0.99
- Are NABE Forecasters Incorporating a Historical Interpretation of the Bubble into their Analysis?

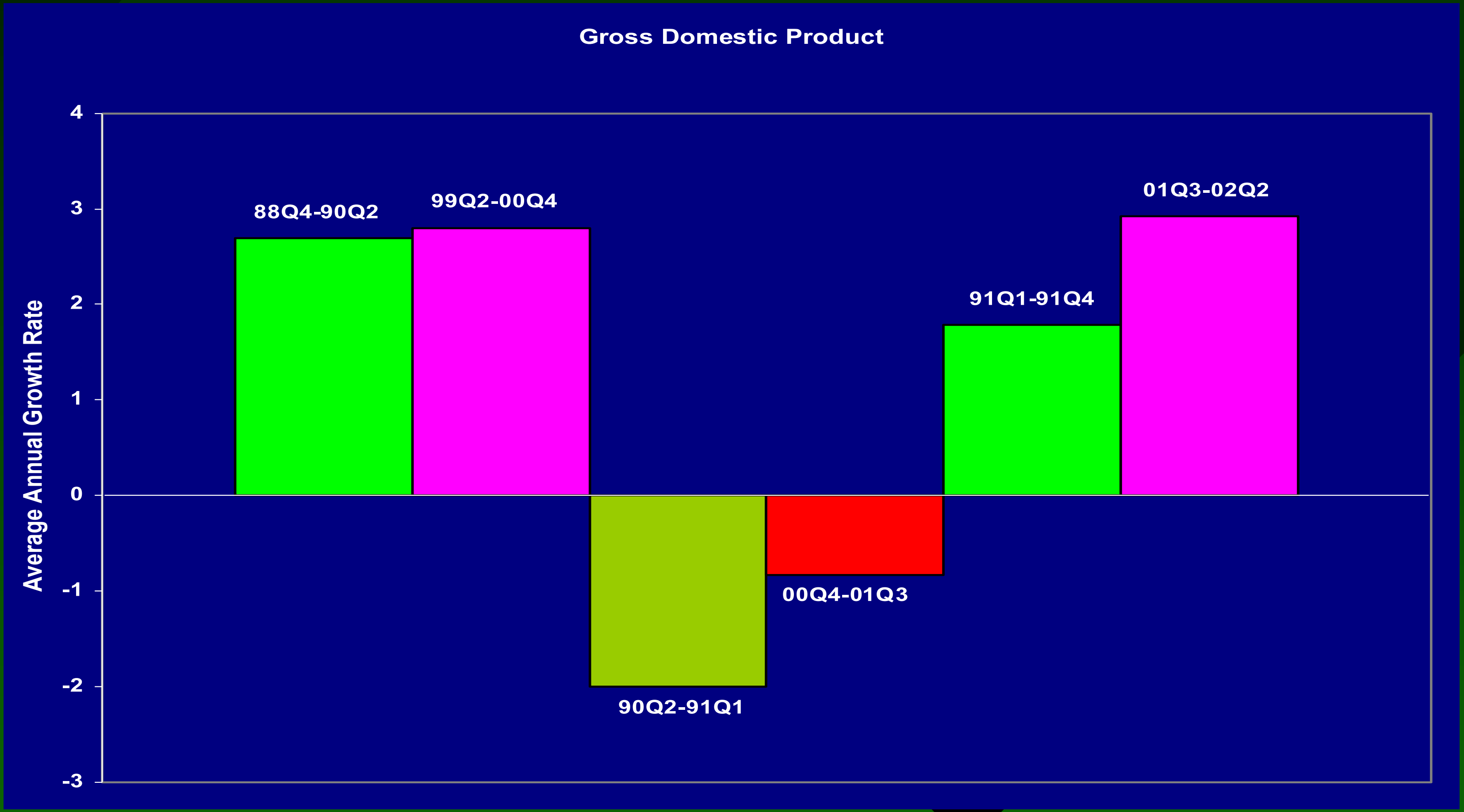
Watch Out for the Next Two Years (2003, 2004)

- Historical Precedent for Below-trend Productivity Growth
- Which of 5 Beneficial Shocks Remain?
  - Productivity growth?
  - Import Prices?
  - Oil Prices?
  - Computer Prices, yes!
  - Medical Care Prices, no! (contrast 1996-98 when medical care prices converged while computer prices accelerated their rate of decline)

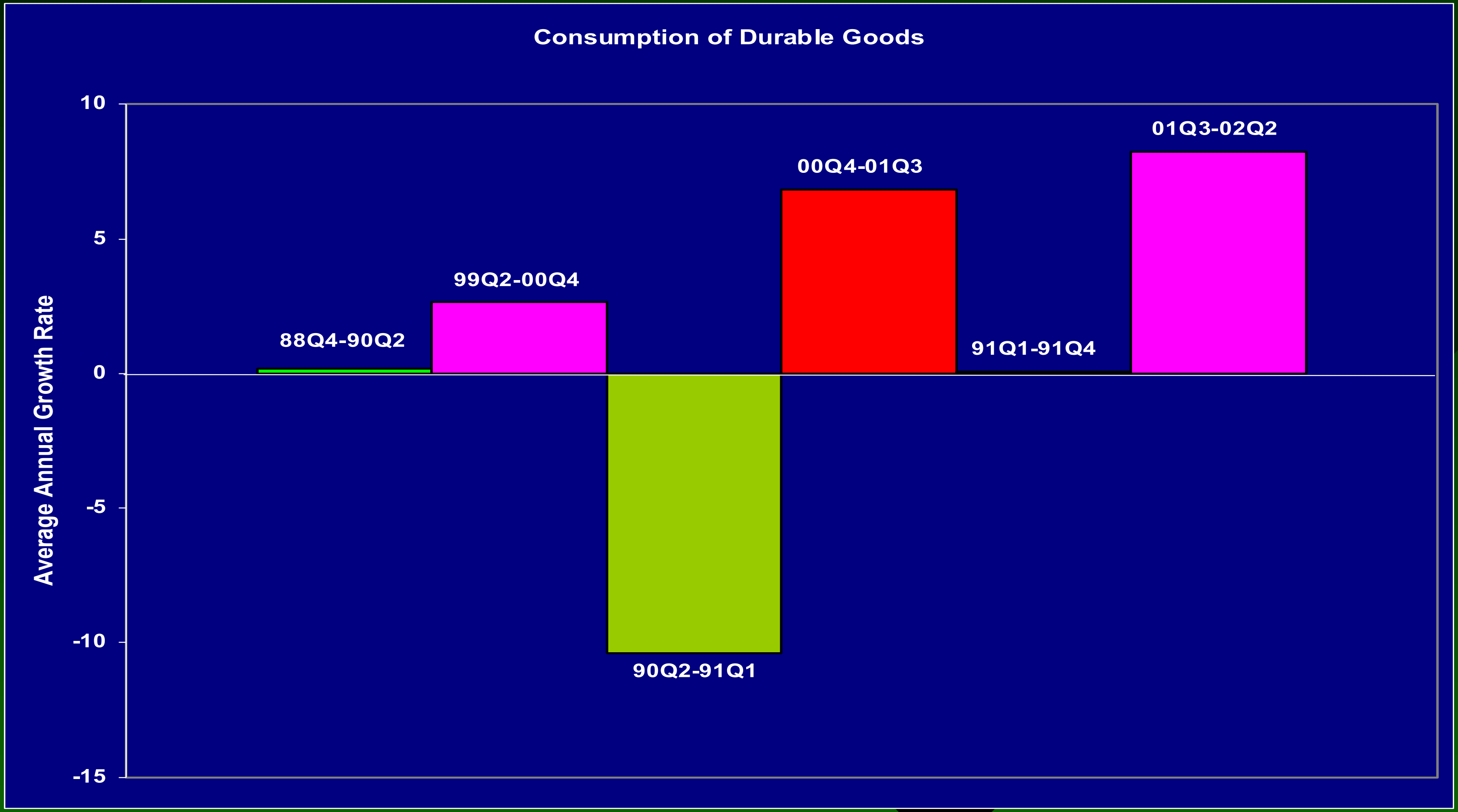
Understanding the Paradoxical Recovery

- When did recovery begin?
  - Real GDP is clear: Trough 2001:Q3
  - We now have three quarters of recovery
- Not an official view of NBER's BCDC
  - We have to choose a month
  - September vs. November

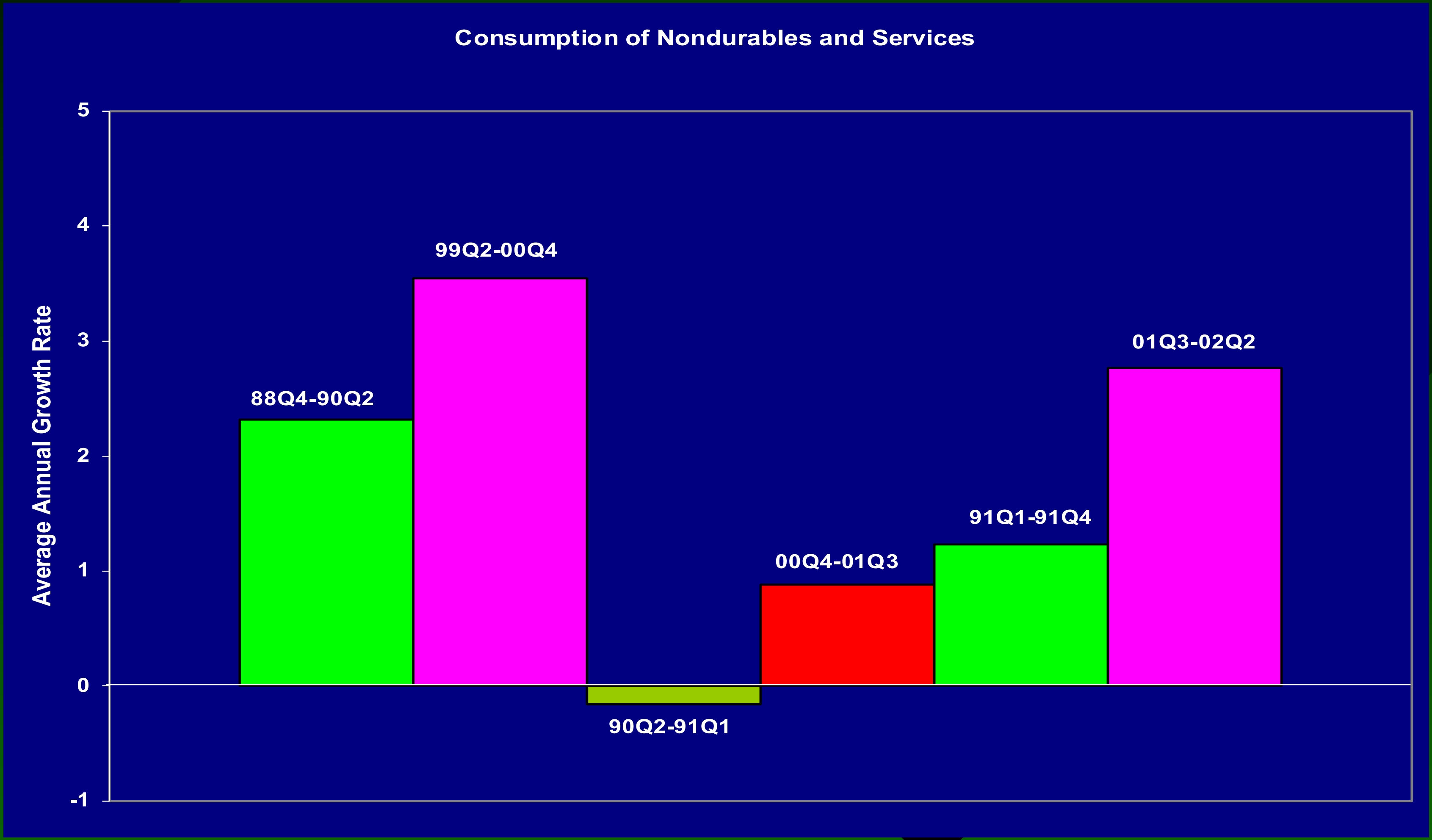
Charts to Summarize the Differences: 1988-91 vs. 1999-2002



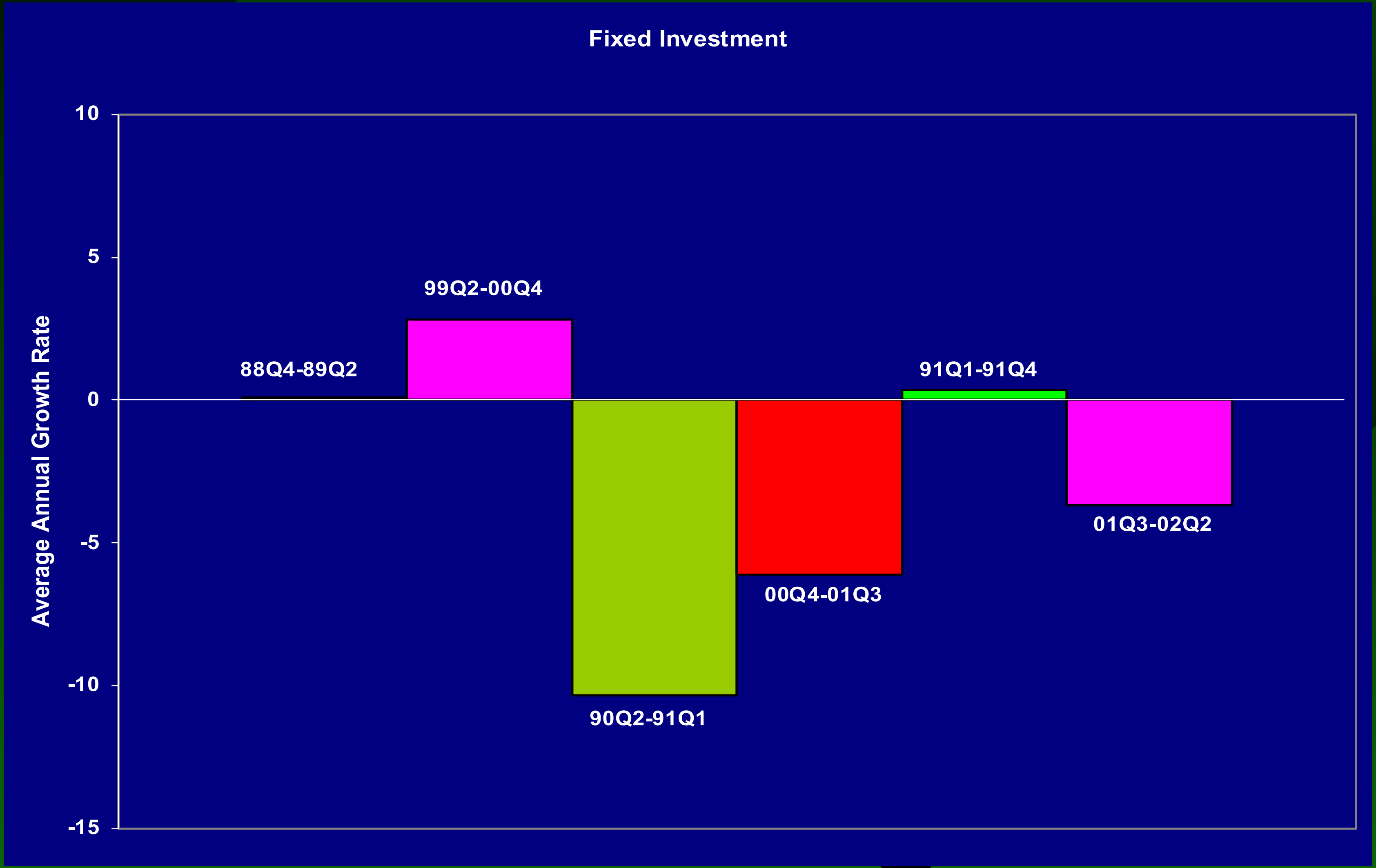
Durable Consumption: the Star Player



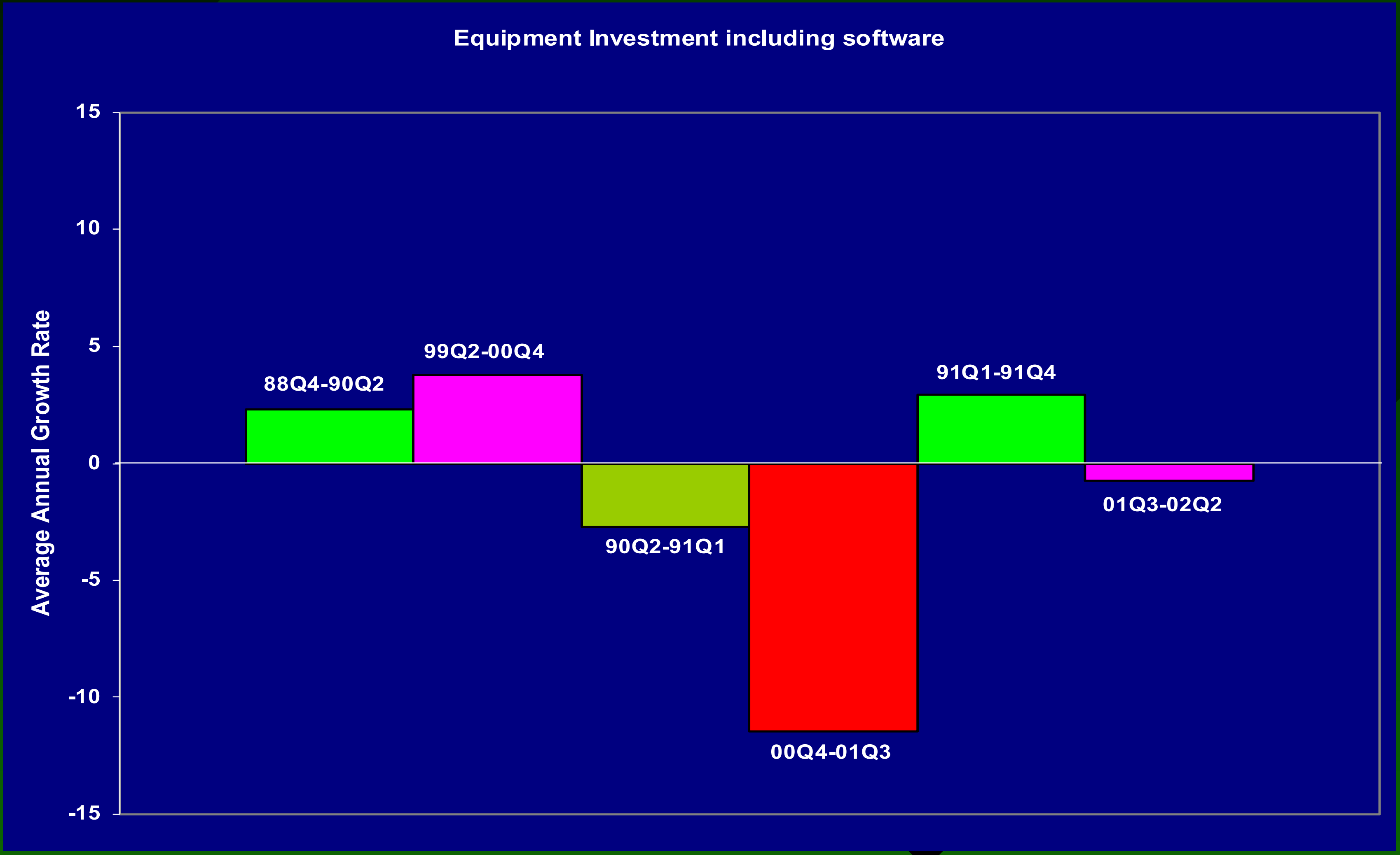
Nondurable and Services Consumption: Not Shabby



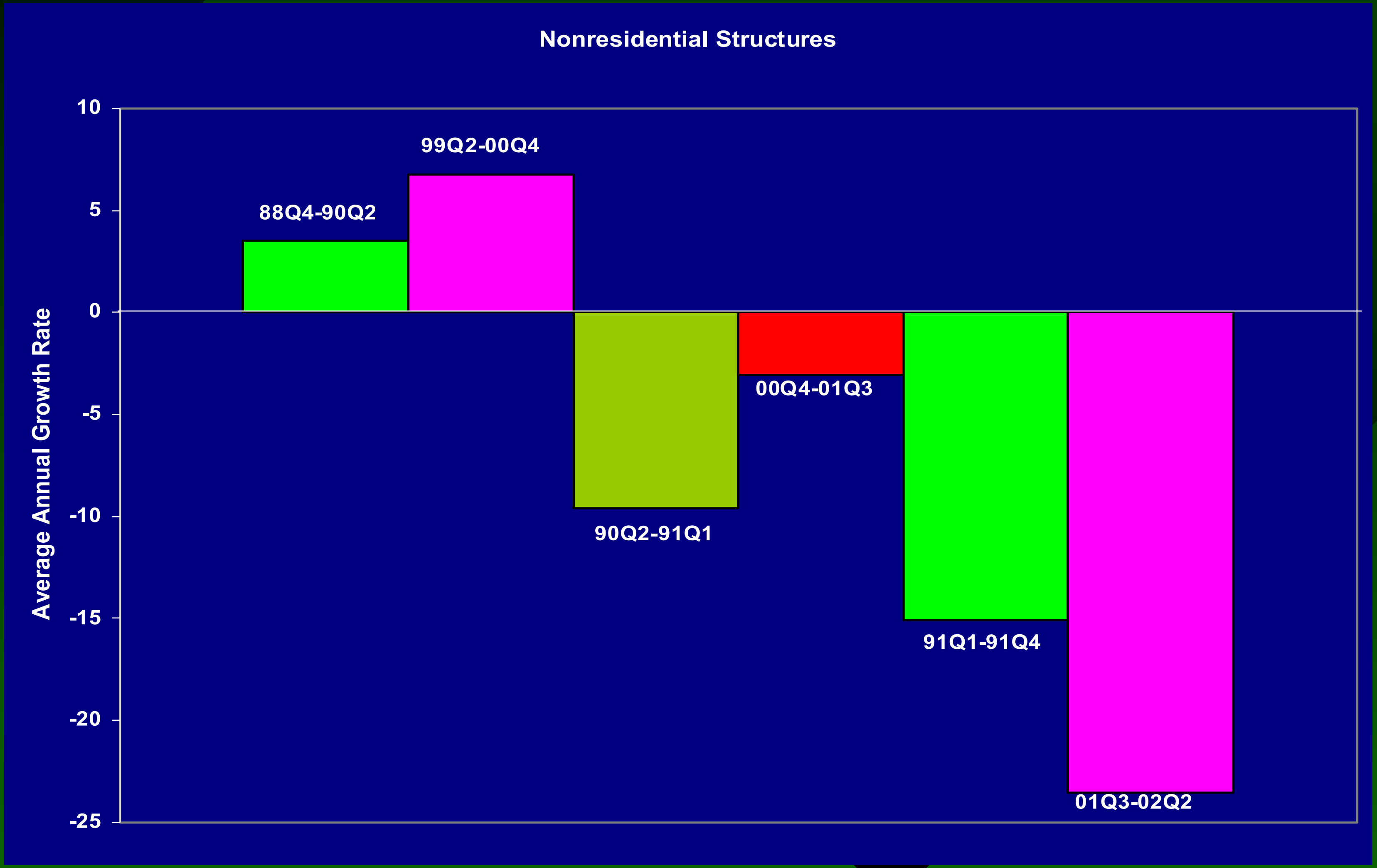
Fixed Investment: Here's the Problem



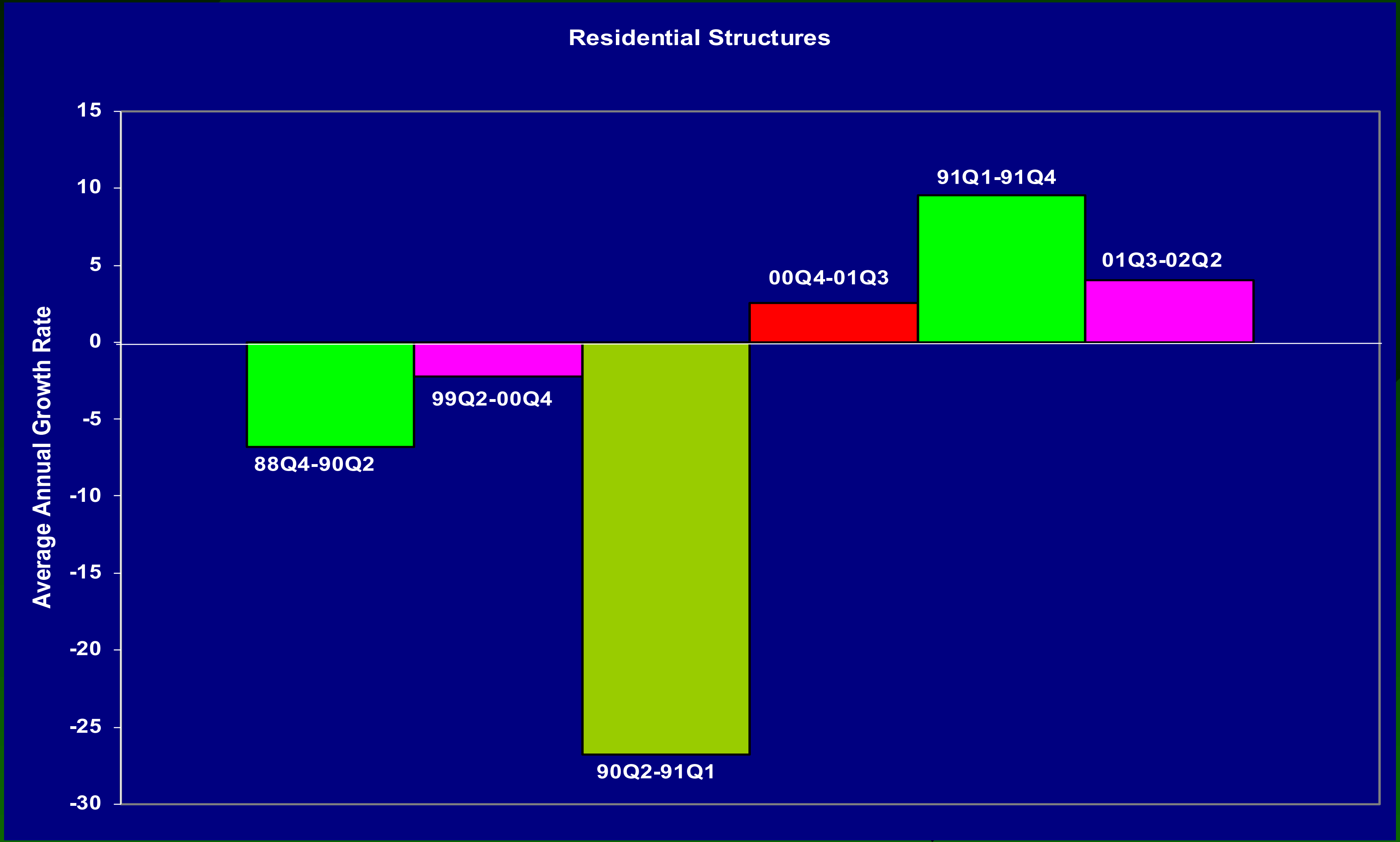
Equipment Investment: Closer to the Problem



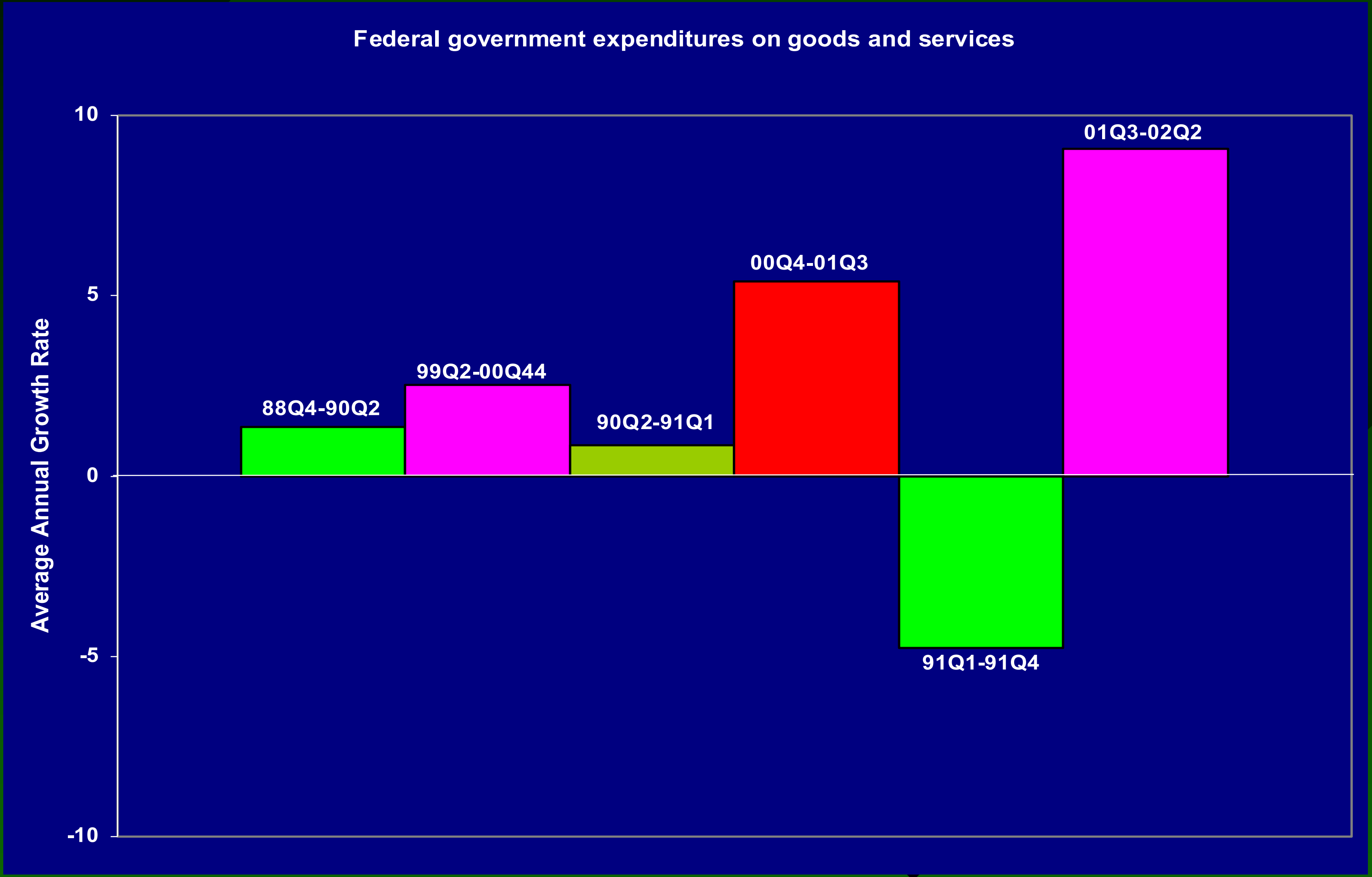
The Surprising Role of Nonresidential Structures



Consumer Durables' Holy Twin: Residential Structures



Bigtime Fiscal Stimulus: Federal Government Exp on G&S



Conclusion #1: Why There Won't be a Double-dip

- Stock market loss-of-wealth on different footing than housing refinance which provides cash-in-pocket
- Refinance not over yet, I'll be doing it next week for the second time this year
- Consumption, housing not fragile
- Double-dip arithmetic. +3 → -3, -6, -12

Conclusion #2: The Economy's Automatic Gyroscope

- Signs of Weakness? Bond Market yields tank
- A Housing Refinance Boom follows, money flows to consumer pockets, the economy is not weak after all
- Business Investment is a Wild Card, not controlled by Fed (flip side of textbooks)

But All is not Rosy

- Current weakness will continue: no chance for another late 90’s boom in IT investment
- State and local government: a lagging and dragging indicator
- Read up on 1991-93 and beware of 1994