

The Inexorable Forces Reducing U. S. Economic Growth

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AAAS Meetings, Chicago

February 15, 2014

The U.S. Has Carved Out the Frontier of the World's Standard of Living

- **The standard of living in the U.S. has been the highest in the developed world since 1900.**
 - **“The standard of living” is typically measured by real GDP per person.**
- **In the late 19th and early 20th century the U.S. invented modern life – electricity and all its spin-offs, the assembly line that made possible inexpensive automobiles, and much else.**
- **Yet we now face the decline of the U.S. along many dimensions.**
- **This talk distinguishes the causes of declining U.S. growth and asks whether anything can be done to rescue the sinking ship.**

Will Today's Youth Be the First Americans Who Fail to Exceed Their Parents' Standard of Living?

- **The baseline is growth in output per person 2.0 percent per year from 1891 to 2007.**
 - This is enough to double the standard of living every 35 years.
 - Each generation has become used to doubling the standard of living of its parents, ever since 1870
- **But today's college-age youth have no such assurance.**
 - Sound familiar? We're here today to learn why today's youth face such a dismal future.
- **Today we're talking only about the U.S., not Europe, Asia, or anywhere else**

Output per Person equals Output per Hour times Hours per Person

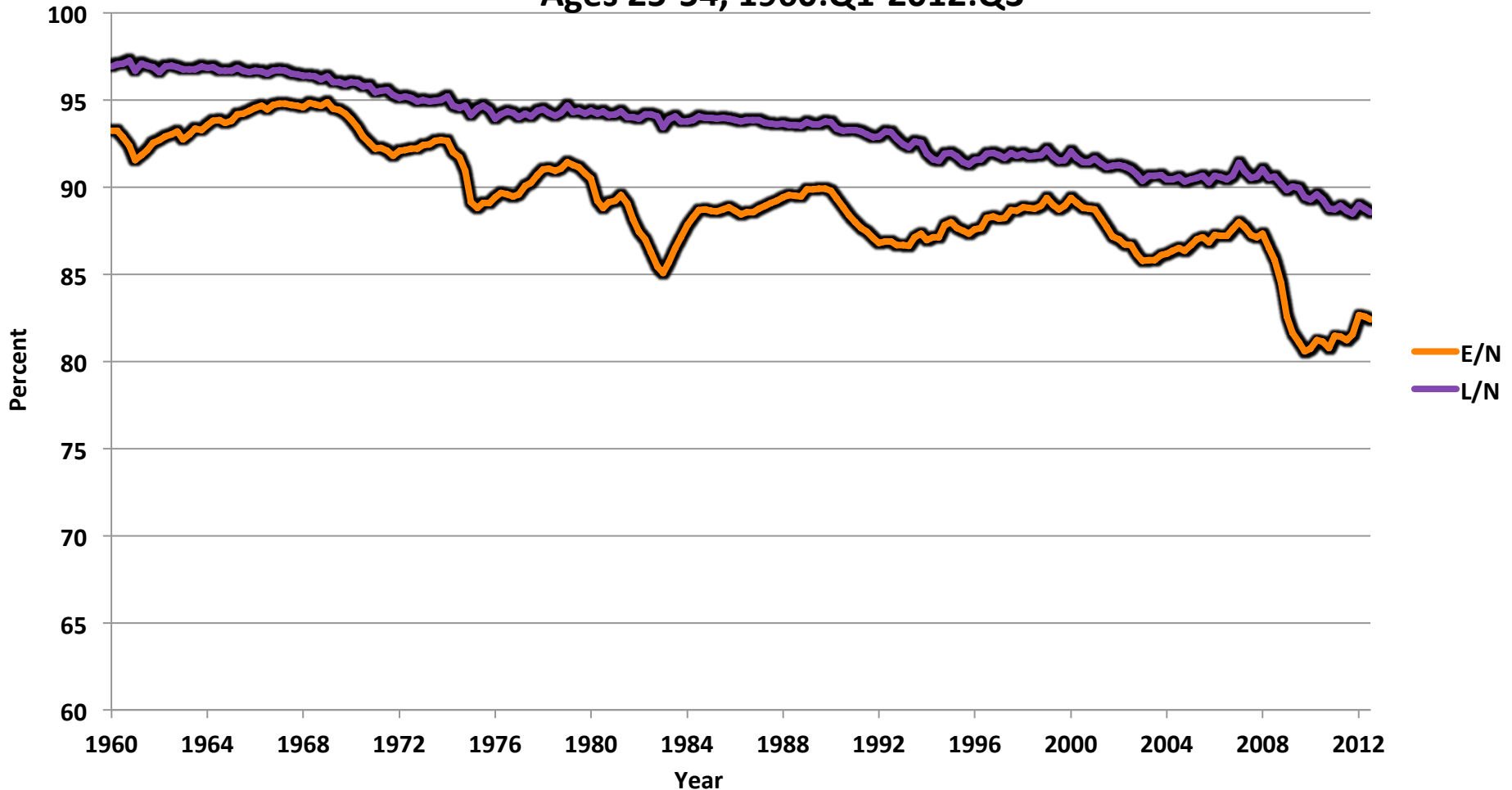
- **U.S. productivity growth combines the role of innovations with educational advancement.**
- **Standard of living can grow faster than productivity if hours per capita increase. Or the reverse can happen.**
- **Example #1: Women enter the labor force**
- **Example #2: Baby-boomers retire.**
 - **This reduces the growth of our standard of living; someone has to pay the bill for the idle hours of the baby-boomers.**
- **Example #3: Obamacare cuts employment**

First Headwind Reduces Hours Per Capita

- **When baby-boomers retire, they are still in the population but are not working. Hours per capita declines.**
 - This automatically means that the national standard of living grows slower than productivity growth.
- **Anything that reduces hours per person harms future growth.**
 - **Declining hours per capita of adult men, adult women, and youth aged 16-24 (beyond what can be explained by schooling).**

Prime-Age Male Participation Is Part of the Demographic Headwind

Figure 20: Employment per Capita and Labor Force Participation Rate, Males
Ages 25-54, 1960:Q1-2012:Q3



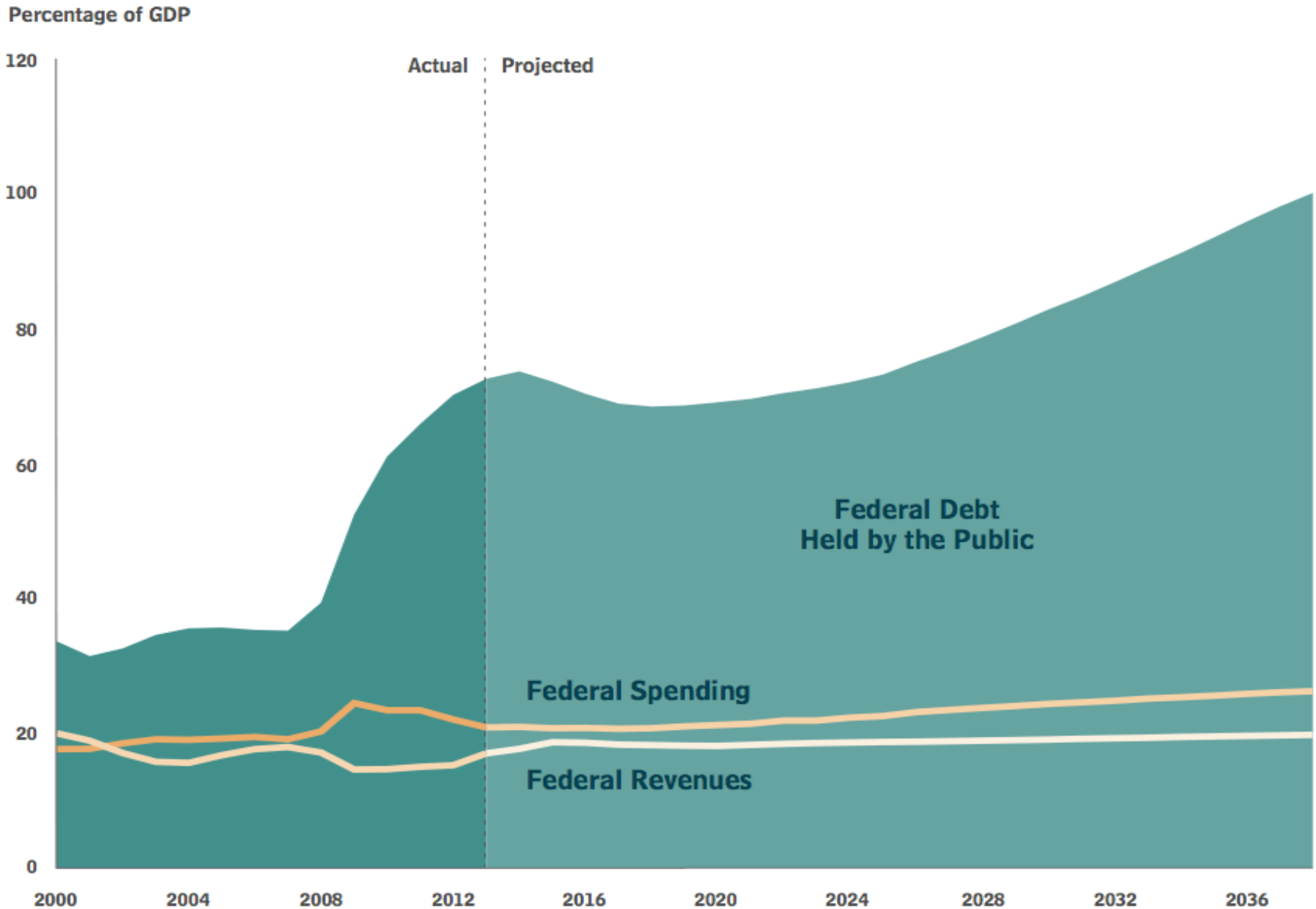
Second Headwind: Education

- **Percent of population in 1900:**
 - High school degrees 10%, College degrees 3%
- **A major driver of that epochal 20th century productivity achievement was education**
 - High school completion today less than 1975 when GEDs are excluded, pervasive dropping out
 - Most people drop out of community colleges
 - The U. S. is the only developed country where the educational attainment of the 55-64 cohort is the same as 25-34 cohort
- **U.S. has dropped from #1 to #16 in college completion as percent of population; same for high-school dropouts**
- **This will reduce future economic growth by -0.3 percent per year**

Third Headwind: Inequality

- **For 1993-2012 the gap between average real income growth of total vs. bottom 99% is -0.53 percent per year.**
- **This is continuing, it's not over. Count the ways**
 - **CEO pay, sports and entertainment stars. (Jay Cutler)**
 - **Wage pushbacks – lower wages, two-tier wages, shaving pension and medical care benefits (Caterpillar, Boeing)**
 - **Firms pushing employees into part-time work (Wal-Mart)**
 - **The current debate about the minimum wage**

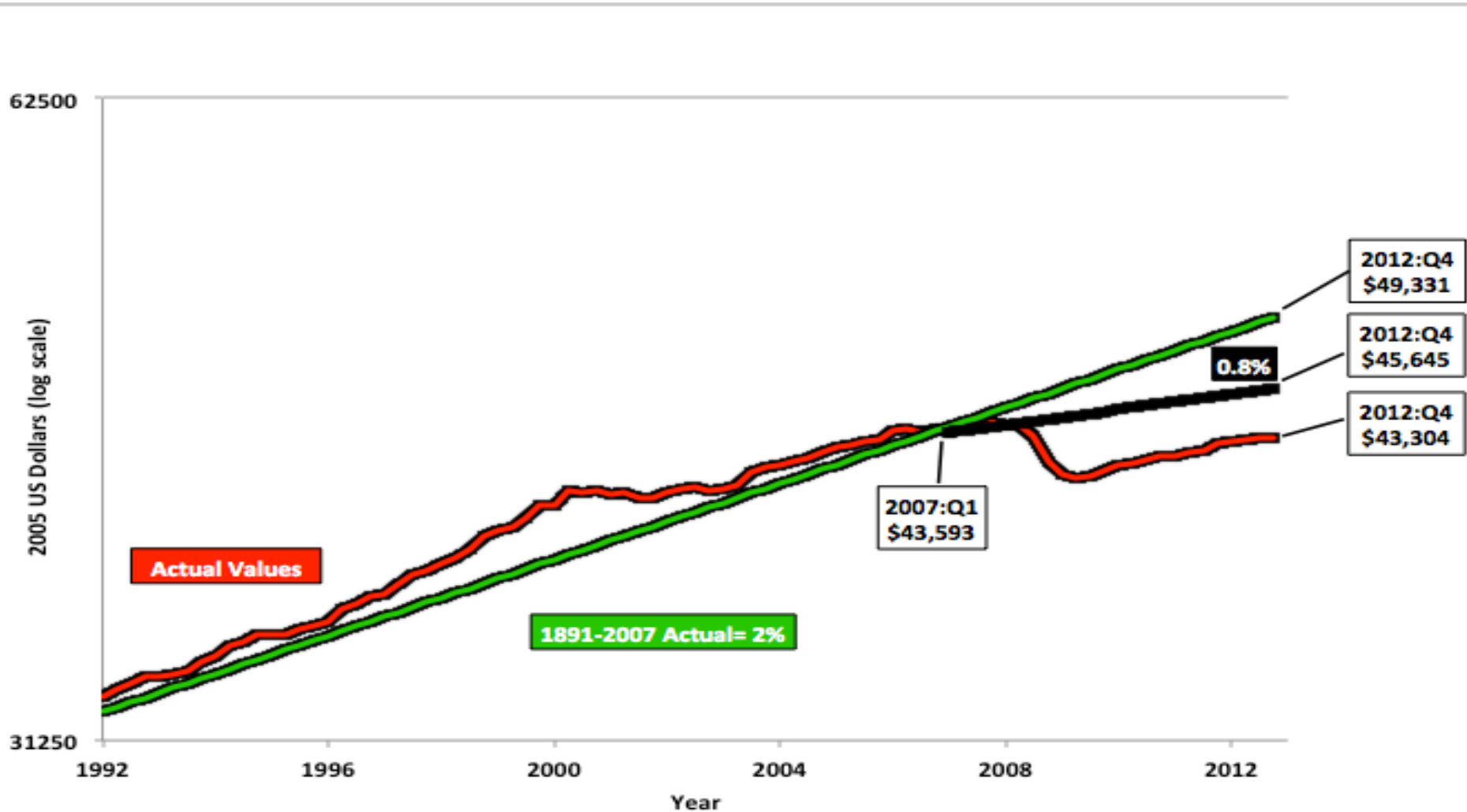
Fourth Headwind: Eventually We Have to Raise Taxes and/or Cut Entitlement Spending Growth



Fiscal Fix Will Reduce Growth in Disposable Income

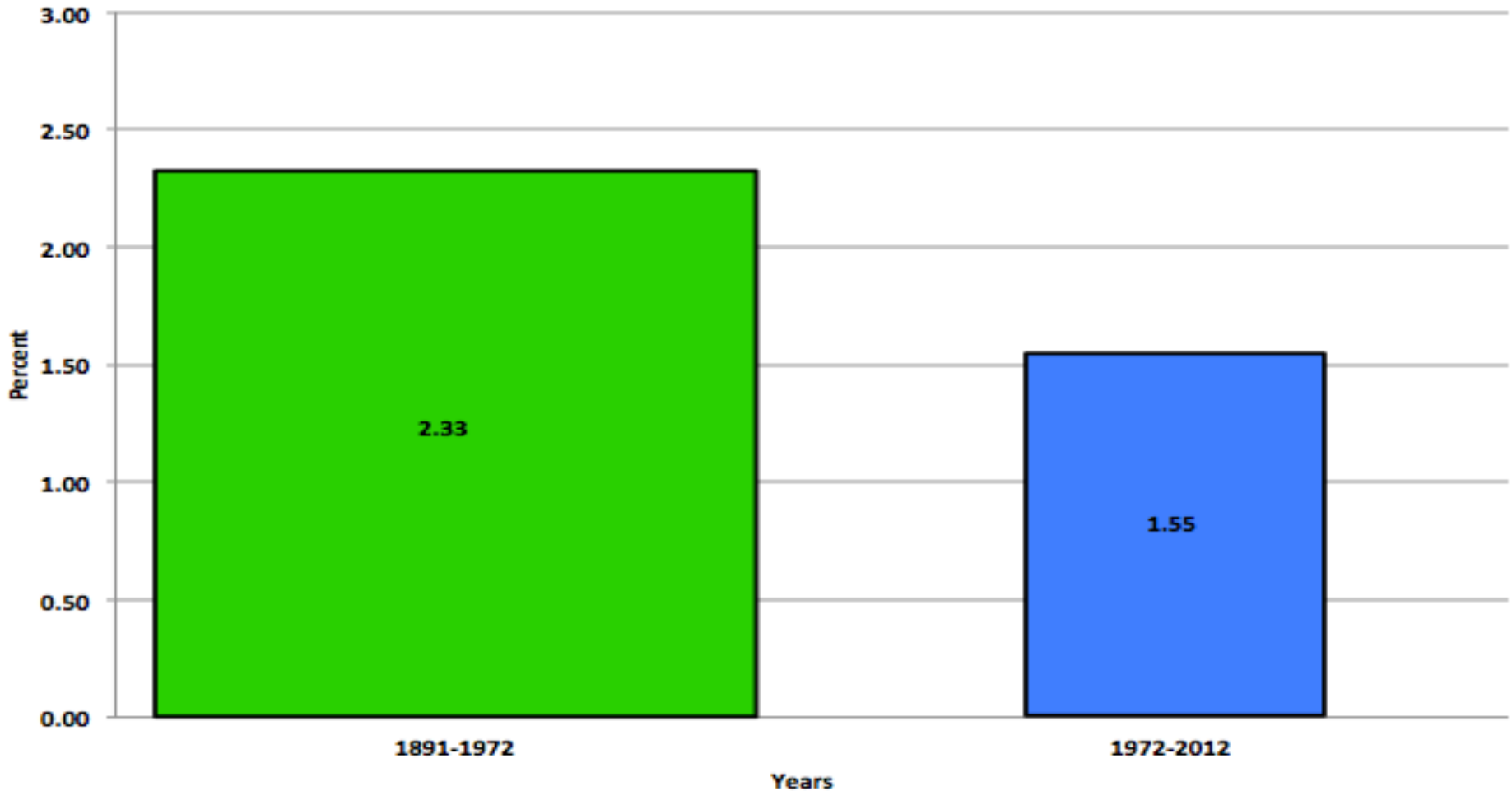
- **This chart understates future growth in ratio because it is overly optimistic on future GDP growth**
- **Many state/local governments have huge pension liabilities**
- **Solutions at all levels of government will require faster growth of taxes and/or slower growth of benefits**

Actual U.S. Economy in 2013 is 12% Below the Historic Trend and 5% Below the Pessimistic Trend



The Second Industrial Revolution vs. the Third Industrial Revolution

Figure 2.2: Annualized Growth Rates of Output per Hour , 1891-2012



Why Did Productivity Grow Faster In the Century Before 1972? The One-Time-Only Inventions

- Polluting flames for light >> instant on-off electric light**
- Crude hand tools >> electric hand tools**
- Factories steam engines and belts >> electrified**
- Offices and home cold and hot >> air-conditioning**
- Low density walk-ups >> elevators in hi-rise buildings**
- Horses >> motor vehicles**
- Railroads >> interstate highways and air travel**
- Mainly rural 1870 >> mainly urban 1950**

More One-Time Changes Before 1972

- Carrying pails of water >> running water
- Outhouses >> indoor bathrooms
- Sewage in streets >> sanitary sewer pipes
- Infant mortality 20% >> infant mortality 1%
- Child labor. 1890 almost half of 14-15 year old boys were in the labor force >> almost none after 1940
- Letter-writing >> telephone talking
- Player pianos >> phonograph listening
- Isolation >> world contact via radio >> TV
- Motion Pictures: Nickelodeon >> “Gone With the Wind”

More One-Time Changes Before 1972

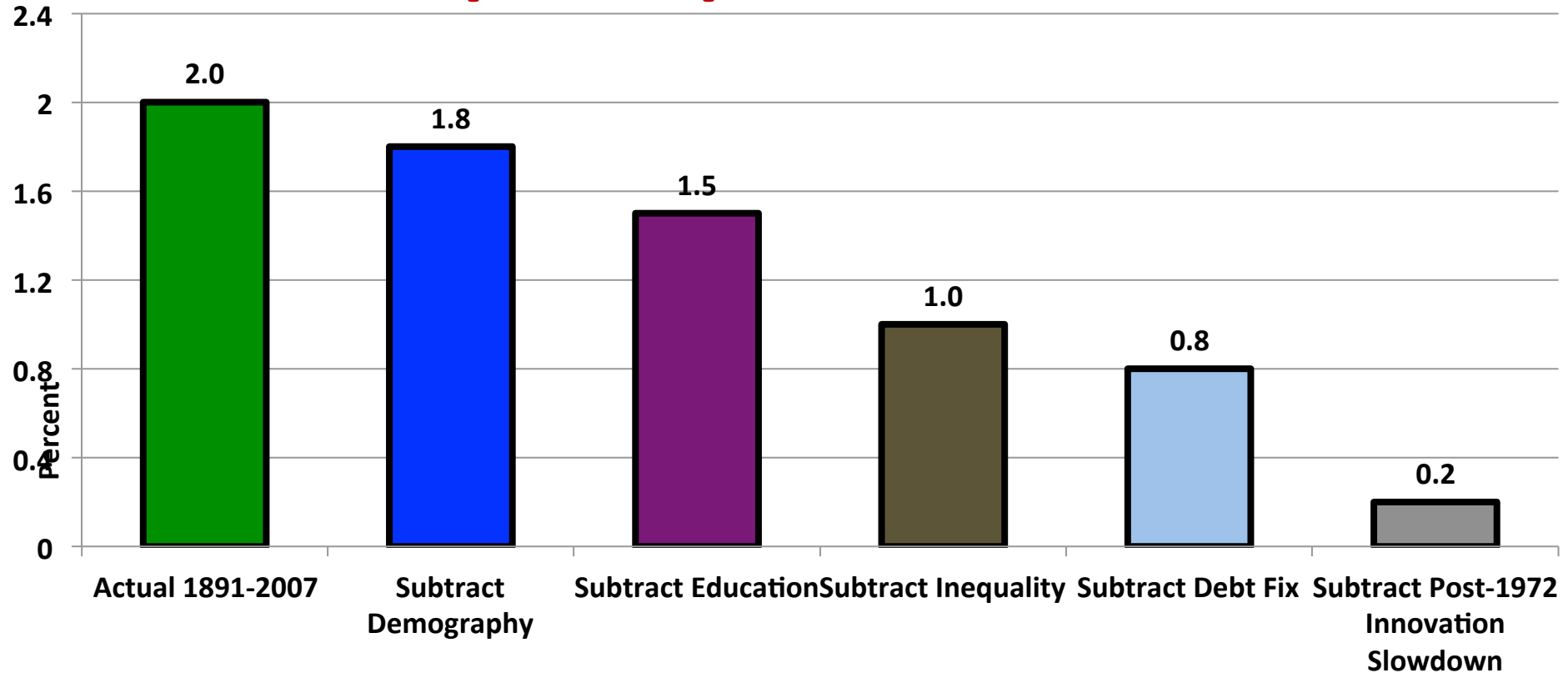
- Death from infections >> antibiotics
- FDR's paralysis >> Salk's conquest of polio
- A mouthful of cavities >> flouridated water
- A boring diet of ham & hominy >> much greater food variety by 1930
- Two or three children per bedroom >> one each
- 60 hour weeks >> 40 or less
- Hot & dirty work conditions >> air conditioned office jobs

Summing Up, Why Was Productivity Growth Faster Before 1972 than After?

- *The 2nd IR consisted of at least five dimensions of Great Inventions*
 - Each invention had spinoffs developed over 1890-1972
- In contrast the 3rd IR has been limited to one dimension, the ICT revolution, the digital economy
 - Its productivity impact limited to 1996-2004

Summary of Subtraction

from 2.0 to 0.2, Disposable Real Income per Capita of Bottom 99%



Implications for Future Growth

- **0.2 percent growth in disposable income of the bottom 99% implies**
- **0.9 percent growth in economywide real GDP per capita (compared to historic 2.0)**
- **1.3 percent growth in economywide real GDP per hour (compared to historic 2.2)**
- **Conclusion: growth is not “over” for the entire economy, but it will virtually disappear for the bottom 99%.**

Interaction Demographics, Education, Inequality

- **Charles Murray's division of white population into Belmont (top 20%) and Fishtown (bottom 30%)**
- **Social stability in Belmont, not in Fishtown**
 - **Percent of children of women aged 40 living with both biological parents, change from 1960 to 2010:**
 - **Belmont 98% to 87%**
 - **Fishtown 95% to 35%**
- **Interaction with education: for a child to live without a father at home is a predictor of more high school drop outs in the future**

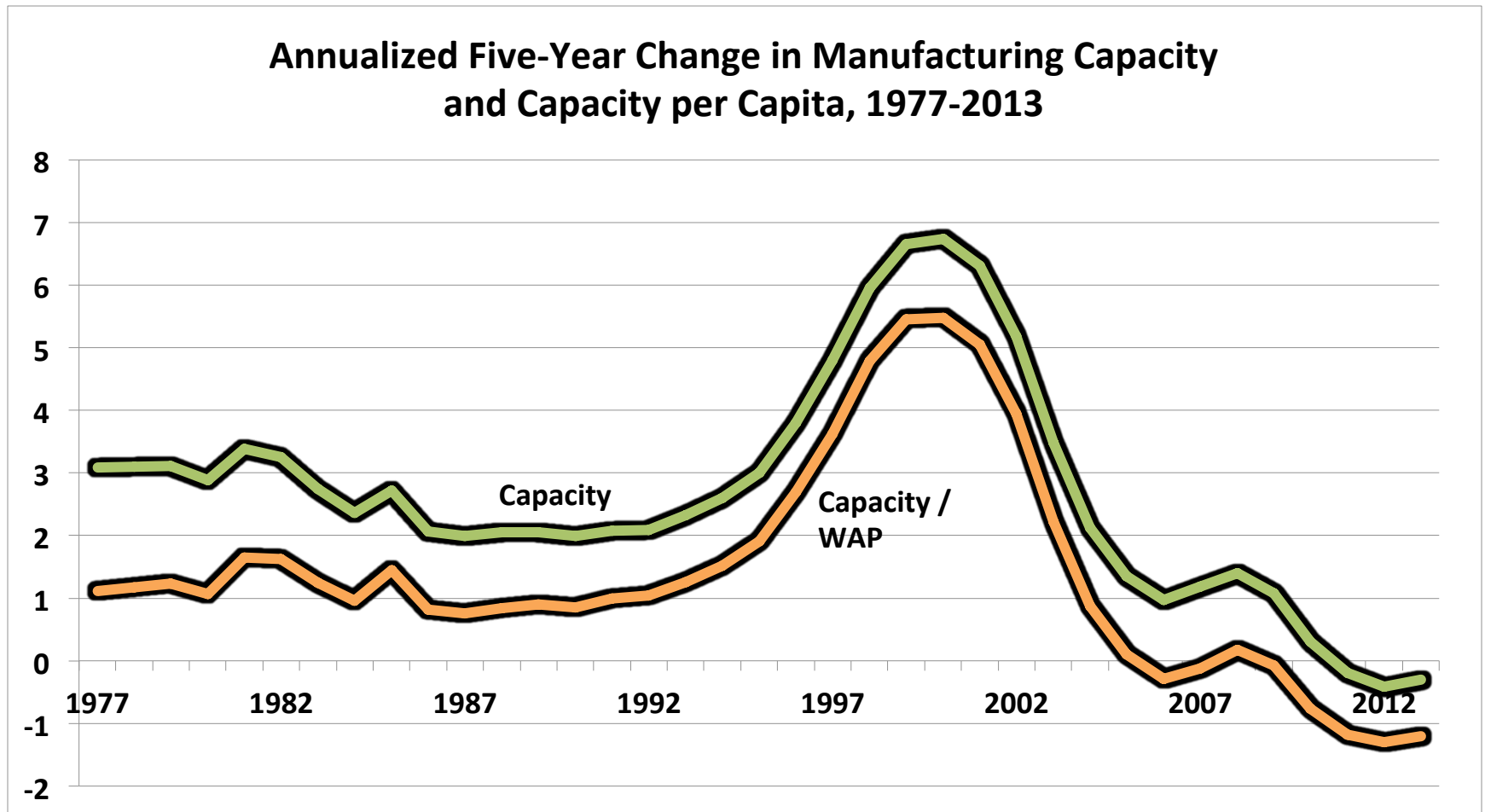
Further Interactions Poverty, Education, and Inequality

- **Proponents of subsidized early childhood education emphasize the vocabulary gap**
 - Children in the top half arrive in kindergarten with 2 to 3 times the vocabulary of children coming from poverty families
- **In the CPS last year, 20% of children were absent more than one month during the academic year**
 - Only 12% went on to receive any college degree
- **International OECD-run PISA test results for 2013 were released in early December**
 - Of 38 developed countries, U.S. ranked #21 in reading, #24 in science, and #31 in math

Implications for Potential Output

- **Has the Great Recession and Slow Recovery Dented America's Capacity to Produce?**
- **The British consul's remark, my question, and his response**
- **Superficially, manufacturing looks OK, with steady and rapid productivity growth**
- **However, manufacturing is fading away**

Growth in Manufacturing Capacity per capita has Turned Negative



Comments on the Techno-optimists

- Most big data is used in marketing, that is, stealing market share from competitors. Zero-sum game
- The *Economist* reported that ICT expenditure was growing 3X faster in marketing departments than any other part of large business firms.
- Slow productivity growth since early 2004 shows:
 - Unimportance of big data
 - Unimportance of smart phones
 - Unimportance of tablets
- These matter little for our service economy dominated by restaurants, bars, retail, education, and medical care

Are There Policy Solutions?

- **Demographics:** index the retirement age to life expectancy and sharply raise quotas for legal immigration
- **Reduce the share of the population in prison by legalizing drugs**
- **Education:** impose higher standards in secondary school while investing in pre-school to reduce the “vocabulary gap”
- **Inequality:** return capital gains and dividend tax rates to pre-1997 levels.
- **Make medical care a right of citizenship, not tied to employment status**
- **More generally, look north of the border**

Across Nations, Headwinds Are Not All Alike

- **Tuition last year at U of Toronto = \$5600 per year**
- **My cousin's three e-mail comments:**
 - **“Canadians pay higher income and sales taxes. In return they get access to universal health care and reasonably priced university education.”**
 - **“The U.S. has a far larger percent of its population in jails than is the case in Canada”**
 - **“The political system in the U.S. has become dysfunctional”**
- **Assignment for our panel: Comment on all of the above.**