

Unsettled Issues in the Rise of American Inequality

Robert J. Gordon and Ian Dew-Becker

Conference on Europe's New Social Reality:
The Winner Takes it All?
Brussels, June 21, 2007

If Europeans Read American Newspapers, they would be outraged

- Europeans are rightly disapproving of US labor market culture, with the top getting the spoils and the bottom receiving crumbs
- For the latest example, read David Leonhardt, *NYT*, 4-4-07:
“3400 Layoffs send a Message to Millions”
- Circuit City Fired 8% of its workforce not because they were doing a bad job but because they were being paid too much
- This is another blow in the ongoing destruction of the private safety net (health care, retirement)
- And now we have the destruction of seniority pay

Preview of Today's Talk

- Motivation: Sources of my new interest in inequality
 - The puzzling discrepancy between median and mean real wage growth
 - A measurement issue or an income distribution issue?
- Explanation of growing inequality
 - 90/10 ratio, CPS data, globalization, unions, immigration, minimum wage, skill-biased technical change
 - 99.99/90 ratio, IRS data, superstars vs. CEOs

My interest in the rise of inequality

- Curiosity about how to resolve a puzzle
- Start from the definition that labor's share of national income equals the real wage divided by productivity
- Add the fact that labor's share has not changed appreciably in the last 50 years
- That implies average real wage growth must equal long-run productivity growth
- While average real wage growth has kept up, median real wage growth has fallen way behind. Why?

How to Resolve the Puzzle

- The IRS publishes income tax data that are heavily oversampled at the top
- This allows us to compare the median and mean directly
- How much have incomes increased at the 20, 50, 90, 95, 99, 99.9, and 99.99 percentile?
- 5 million data observations

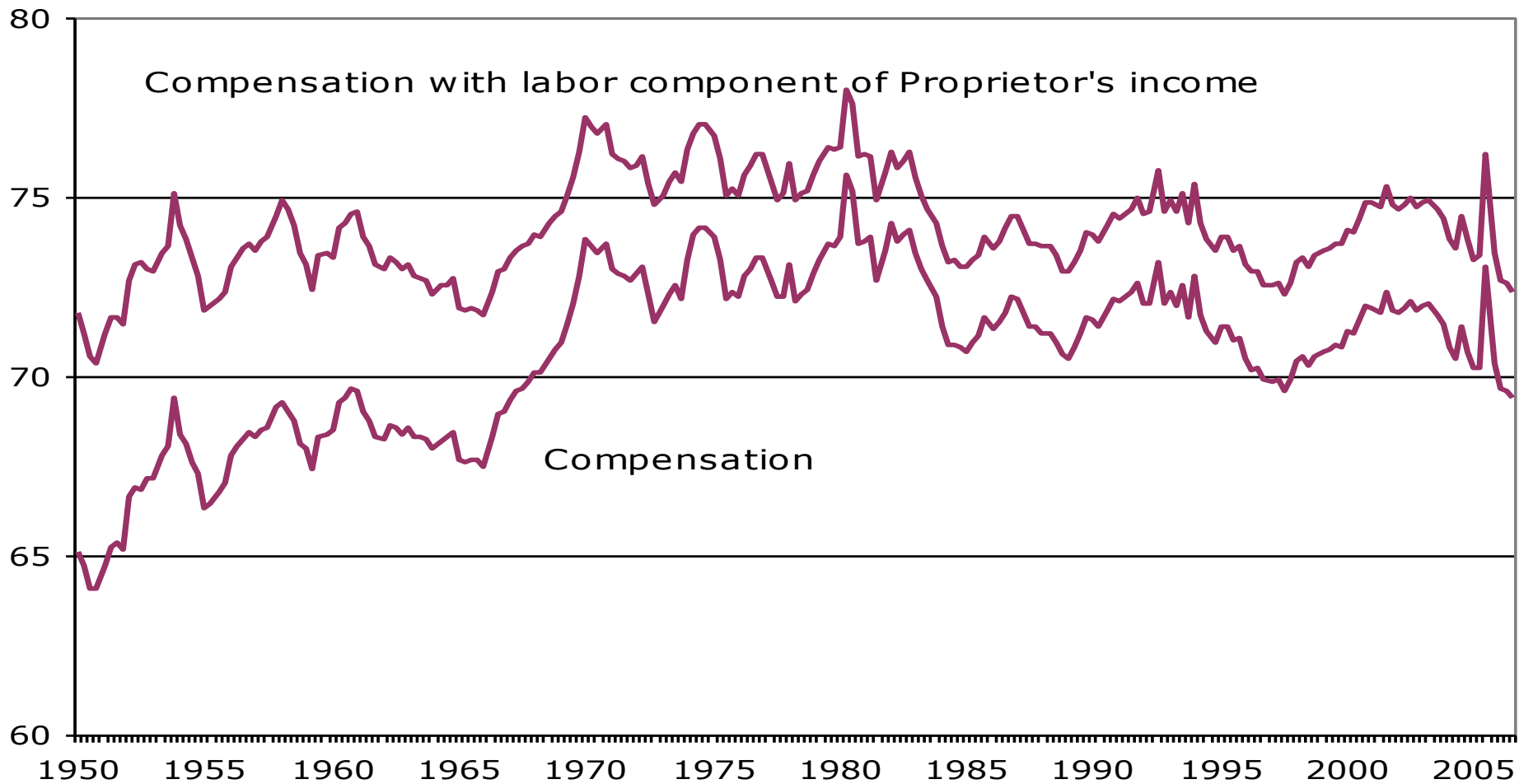
The New Elements in Our Data Analysis and Interpretation

- This presentation is a sequel to a 2005 paper, where we were the first to unravel the puzzles of stable labor's share, rising mean wage income, and stagnant *median wage income*.
- Our explanation moves beyond the literature by
 - Distinguishing between causes in the bottom 90 percent and the top 10 percent
 - At the top, trying to sort out explanations involving SBTC, Superstars, and CEO pay
 - Trying to link US explanations to differences between the US and Europe/Japan

Our Headline Result in 2005

- *Over the period 1966-2001 only the top 10 percent of the income distribution had real compensation growth equal to or above the rate of economy-wide productivity growth*
- Today's presentation
 - Reviews our basic 2005 results
 - Provides a more complete review of explanations of increased US inequality at the bottom (0-90) and at the top (90-99.99)
 - Adds a preliminary review of international data

What has Happened to Labor's Share?



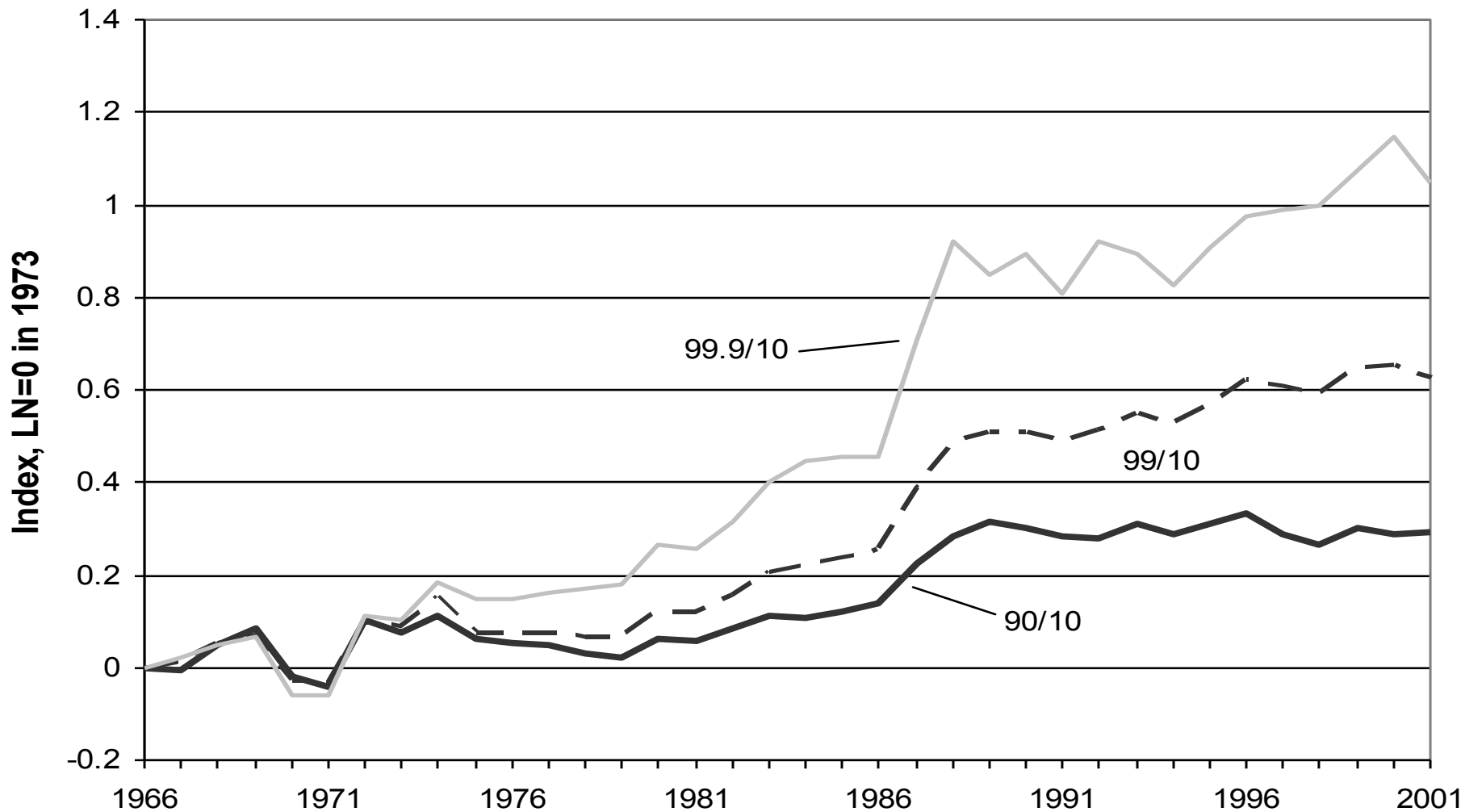
Lack of Connection between Labor's Share and Inequality

- Incomes were much more equal in 1950s but labor's share was the same (or lower for the narrow measure)
- Much of the rise in inequality > 90th percentile occurs in labor income, not capital income
- *The main story is increased skewness within labor income, not a shift from labor to capital income*

A Measurement Story: The Understatement of Wage Growth

- 1954-2006, private sector labor productivity growth was 2.27 percent per year
- Average real hourly earnings only 0.13 percent per year
- How to Reconcile?
 - Total economy productivity growth is slower than private economy
 - Deflators: private sector business inflation was much lower than CPI inflation (CPI is upward biased)
 - Coverage: average hourly earnings refers only to workers paid by the hour, excludes all salaried workers where most income gains have occurred

IRS Data Shows Increased Skewness Above 90th Percentile

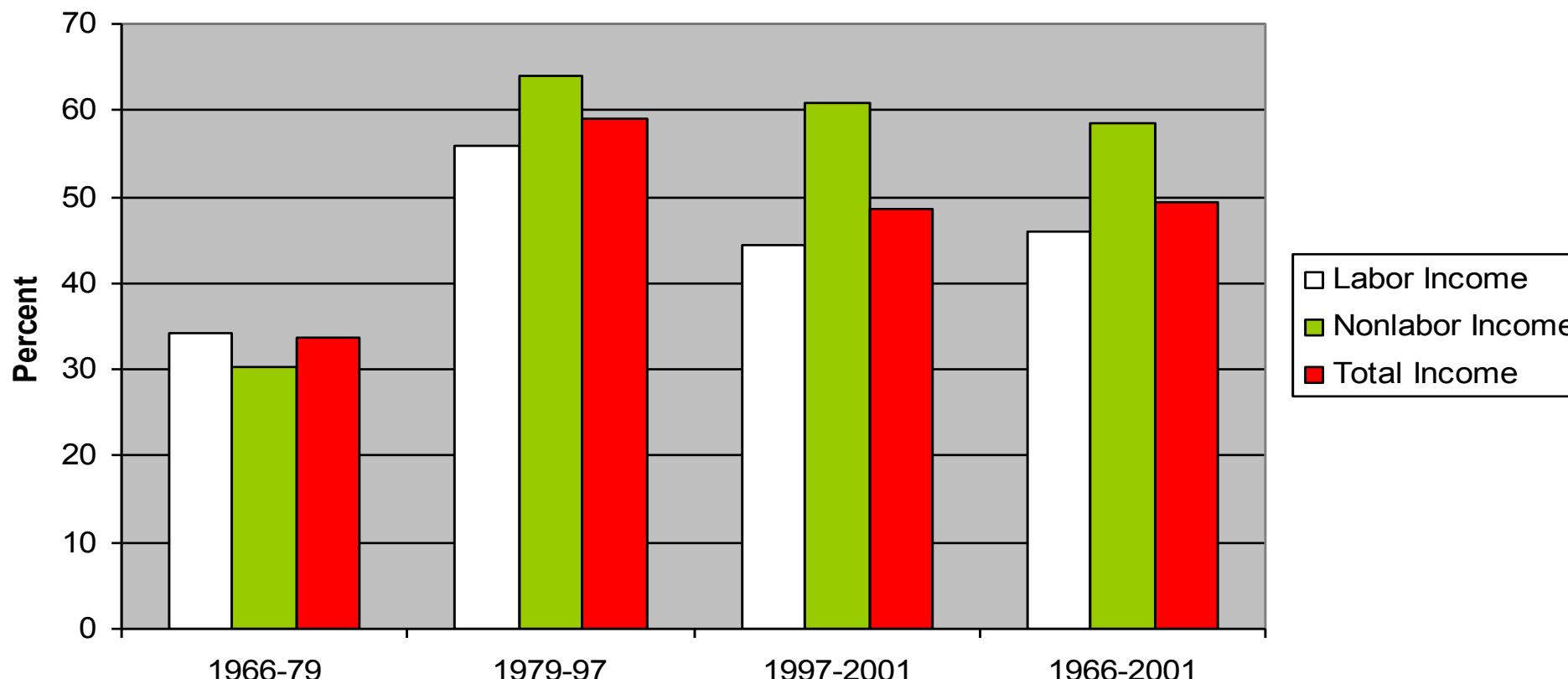


Almost Nobody Keeps Up, Basic Result for 1966-2001

- The headline result: *only the top 10% have experienced adjusted real income gains equal to or faster than productivity growth*
- Total economy LP growth 1.54%
- 90th percentile grows at 1.77%, 95th at 2.06%, 99.9th at 3.92
- Everybody else slower than 1.54%
- Adjusted growth of median is only 0.9%
 - Note that this is *faster* than for median avg hourly earnings

Share of Top 10% in Total Income Gains (Labor vs. Nonlabor vs. Total Income)

Figure 12.
Share of Top 10 Percent in Increase of Real Income, \$2000, Selected Intervals, 1966-2001



Evidence on Income Mobility from the Basement to the Penthouse

- While inequality was increasing, there was no change in mobility
 - About 50% in penthouse are still there one decade later, same for basement
 - About 3% make it from basement to penthouse in one decade and vice versa
 - Lots of churning between 20 and 80 percentiles
- Bottom Line: Increased inequality has not been offset by increased mobility
- Opulence of penthouse has increased relative to basement

Intergenerational Mobility ("Rags, Riches, and Race")

Where Children Wound Up	Top-Income Children	Bottom-Income Children
Top	38	7
Second	27	11
Middle	17	16
Fourth	12	24
Bottom	6	42

Causes of Increased Inequality as Measured by 90/10 Ratio

- Common Focus on Skill-Biased Technical Change (SBTC) to Explain 90/50 or 90/10
- Since supply of college graduates has increased, SBTC says that demand must have increased more than supply
- How Much Does SBTC Explain Compared to Institutional Changes: Unions, Minimum Wage, Immigration, Imports?

Rise in Supply of College Graduates is Coming to an End

Steady growth in educational attainment at
age 30 by year of birth (slowdown esp. for
males)

– 1900 8.5 years

– 1950 13.2

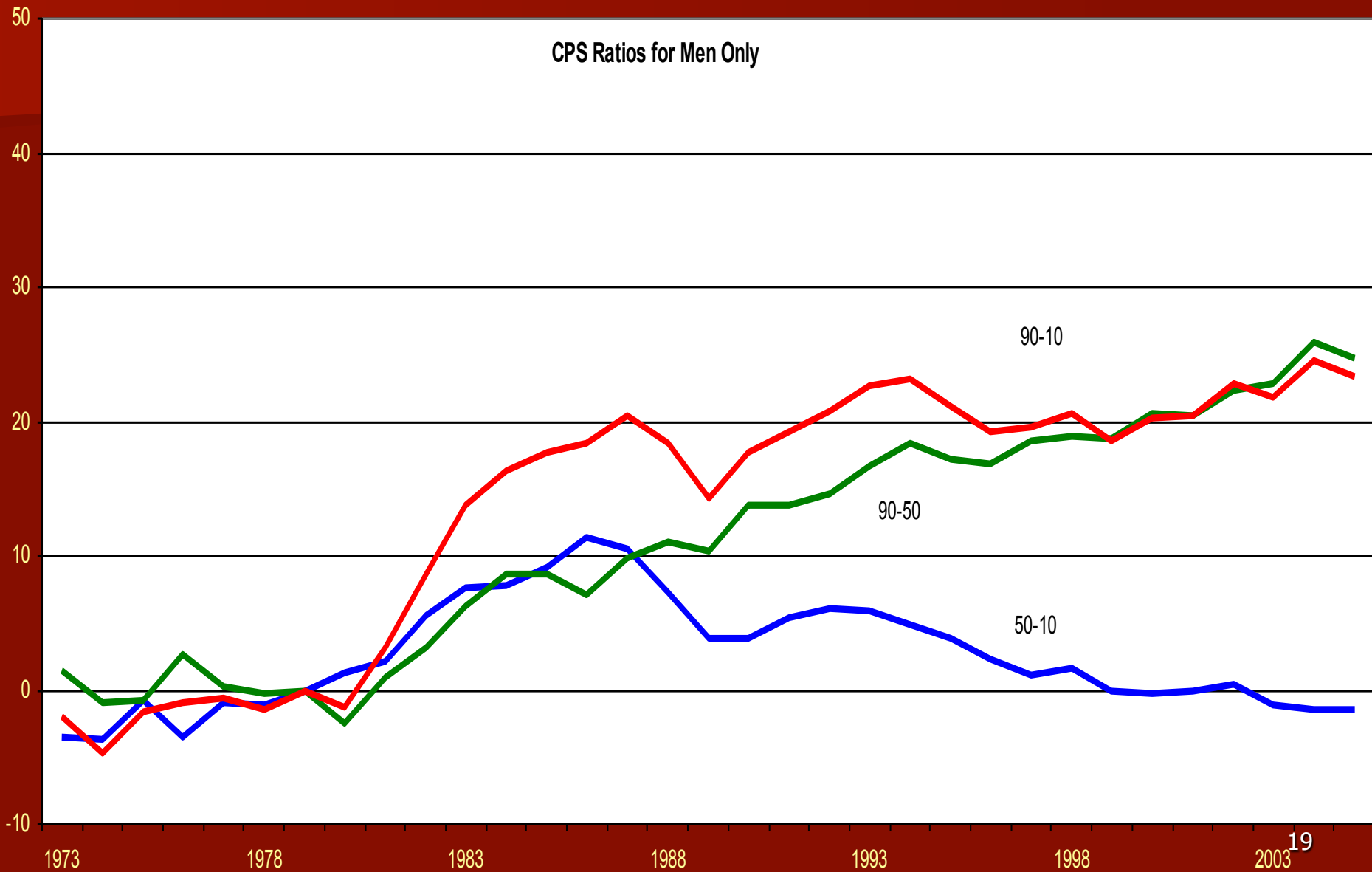
– 1975 13.9

- Implies growth accounting contribution of
“labor quality” falling from 0.25 to zero!
- Bad news for US compared to Europe

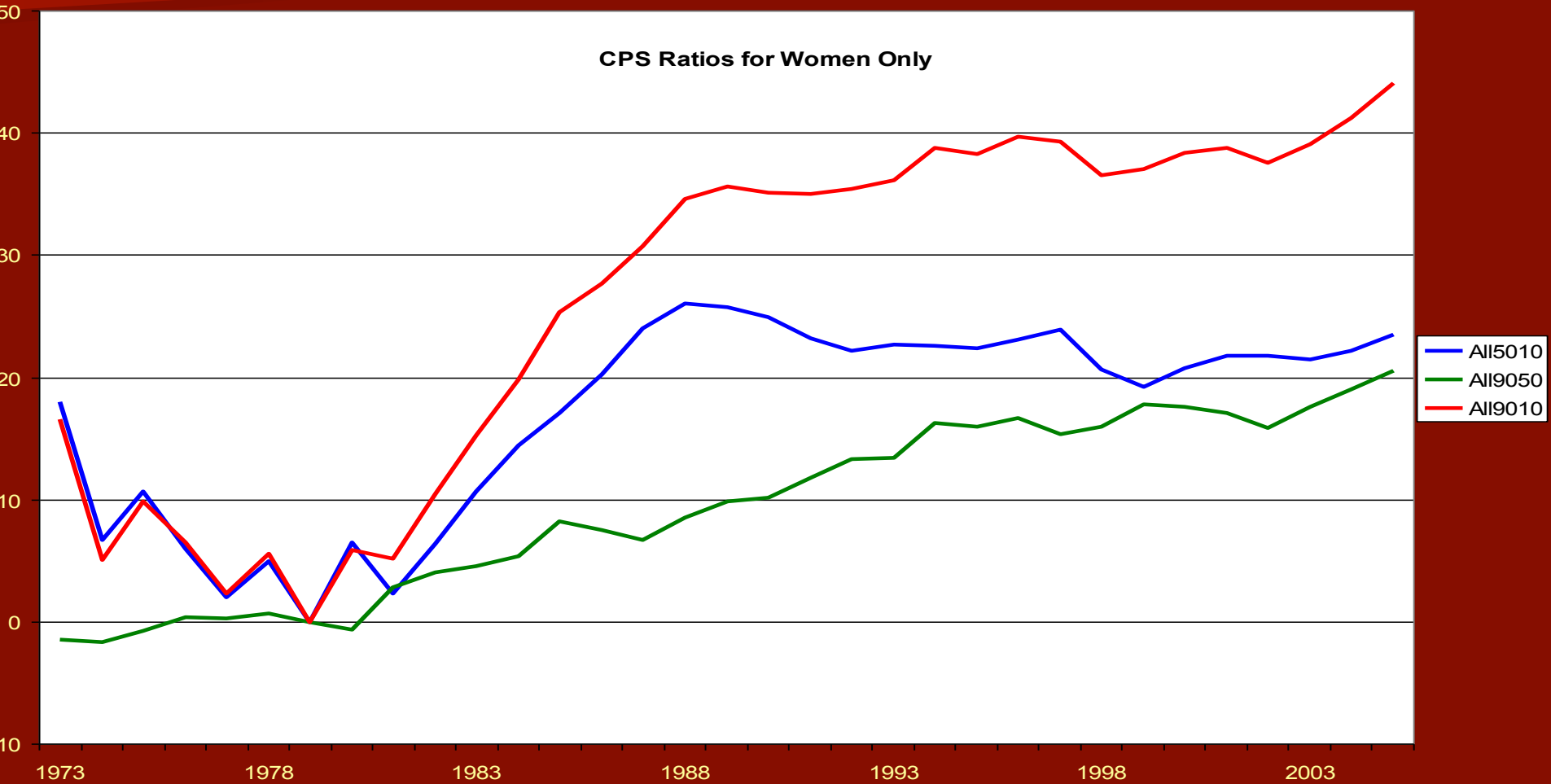
Income Inequality below 90th Percentile

- Many articles and hypotheses focus on the timing of changes in the 90-50 and 50-10 ratios
- Key fact: Big decline in real minimum wage 1981-86
- The time path for men and women is quite different, and here we present ratios from the latest CPS data

Ratios 1973-2005 for Men



Ratios 1973-2005 for Women



Organizing Principle for 90-10 Ratio: Reversal of the Goldin- Margo “Great Compression”

- Goldin-Margo comment on the “remarkable similarity” between compression of the distribution in the 1940s and its widening in the 1970s.
- Elements of the great compression of the income distribution in 1940-70: rise of unions, disappearance of imports and immigration
- Reversal: decline of unions, rise of imports and immigration
- Extra elements: equalizing influence of high school educ 1910-40 and minimum wage
 - Recall those educational attainment numbers at age 30, 8.5 in 1930 vs. 13.2 in 1980.

The Role of Deunionization

- Everyone agrees it mainly affects men
- Main conclusions of recent research:
 - Union wage distribution compressed
 - Small effect, just for males, maybe 14 percent of growth in variance of male wages 1973-2001
 - SOWA 2006-07 has similar conclusions in a different metric

Second Aspect of Great Compression: Globalization

- Trade, Imports, Job Displacement
- Recent data imply job losses across the income distribution
 - No real impact on the income distribution
 - Perhaps slightly more job losses at the bottom
- Trade has bigger impact on manufacturing employment; raises inequality if lost mfg jobs are above average wages

Third Aspect of Great Compression: Immigration

- Fact: Since 1970 triple the flow of immigrants as ratio of population and share of foreign-born workers in the labor force
- Borjas-Katz reduced form approach
 - Lower real wages of domestic workers by 3% 1980-2000
 - Loss reached 9 percent for domestic workers without a HS degree

Challenge to Borjas-Katz from Ottaviano and Peri (2006)

- When Immigrants arrive, they stimulate capital investment (they rescue previous central city ghettos)
- Substitution is not general, immigrants compete with each other in particular occupations
 - Implication: New immigration drives down wages of existing foreign-born residents
- Thus we may have been asking the wrong question, not about the impact on native Americans but on the wages and skills of the entire population including the immigrants themselves

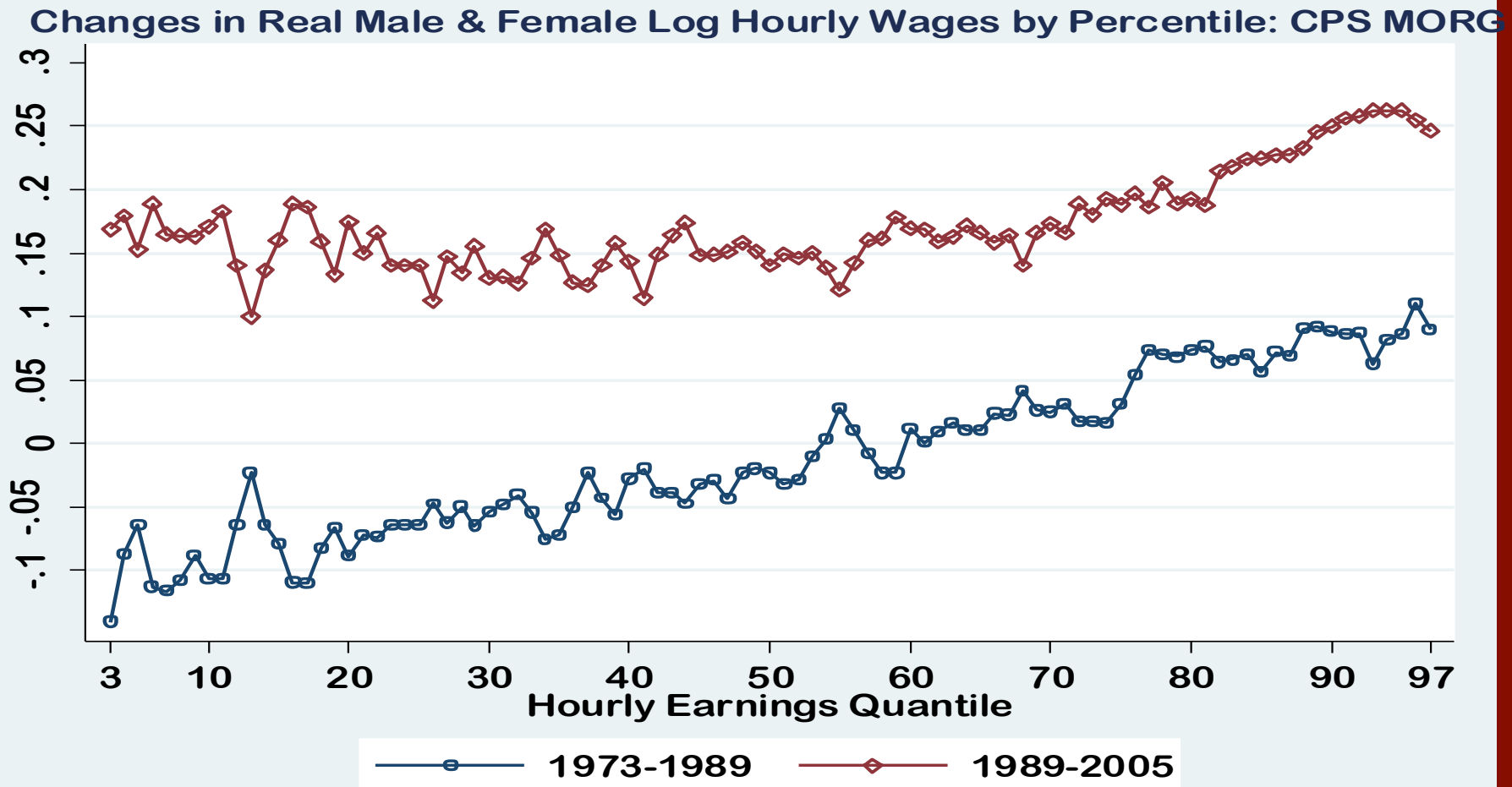
Minimum Wage

- Circumstantial Evidence
- Minimum wage hits women harder than men
- 50-10 ratio for women increased much more than for men and increased permanently
- It is hard to think of another convincing hypothesis than the influence of the minimum wage on the 50-10 ratio for women

Skill-biased Technical Change

- The gradual increase in 90-50 for both men and women lends plausibility to this hypothesis
- Reason for skepticism: occupational group data show low wage increases for engineers and computer experts, fast for “managers”
- Response of research: broadening the concept of SBTC to encompass five groups, “nonroutine interactive” down to “routine manual”

The Next Slides are from D. Autor: Changes in Real Wages by Percentile → 'Polarization'



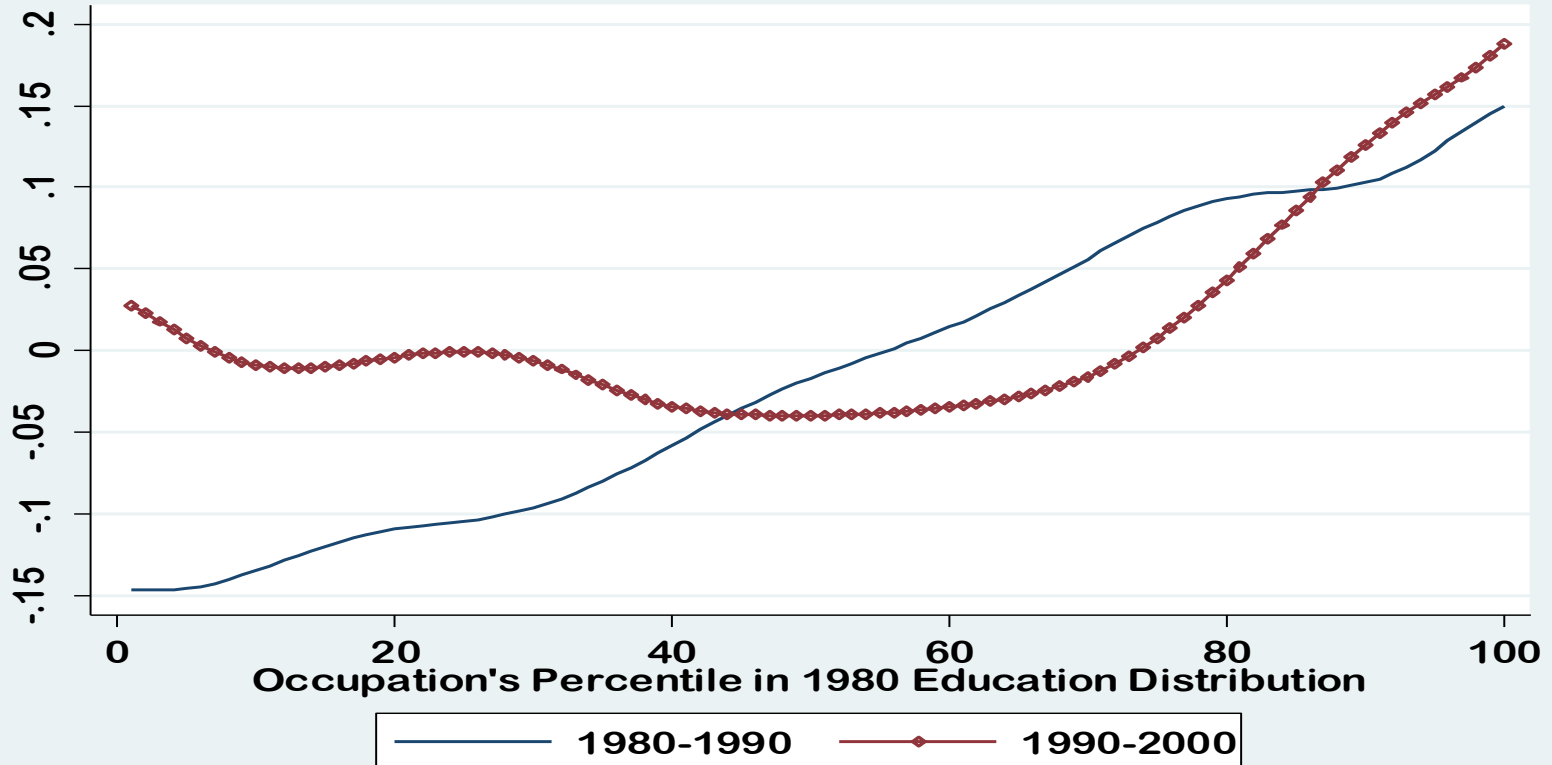
Exploring Role of Supply and Demand in Wage Polarization

1. Present straightforward evidence that demand forces appear central to:

- Monotone rise of inequality in the 1980s
- Twisting/polarization in the 1990s
- **Consider how technical change contributes to understanding of these trends (cf. Autor, Levy, Murnane 2003)**

Changes in Occupation Employment Shares Occupations Ranked by Average Years Schooling 1980

Figure 4. Smoothed Changes in Employment by Occupation 1980-2000



A Striking Correspondence...

Real Wage Growth by Earnings Pctile 1979-89 and 1989-99

Changes in Employment by Occs' Educt'n Pctile, 1980-90 & 1990-00

Changes in Real Male & Female Log Hourly Wages by Percentile: CPS MORC

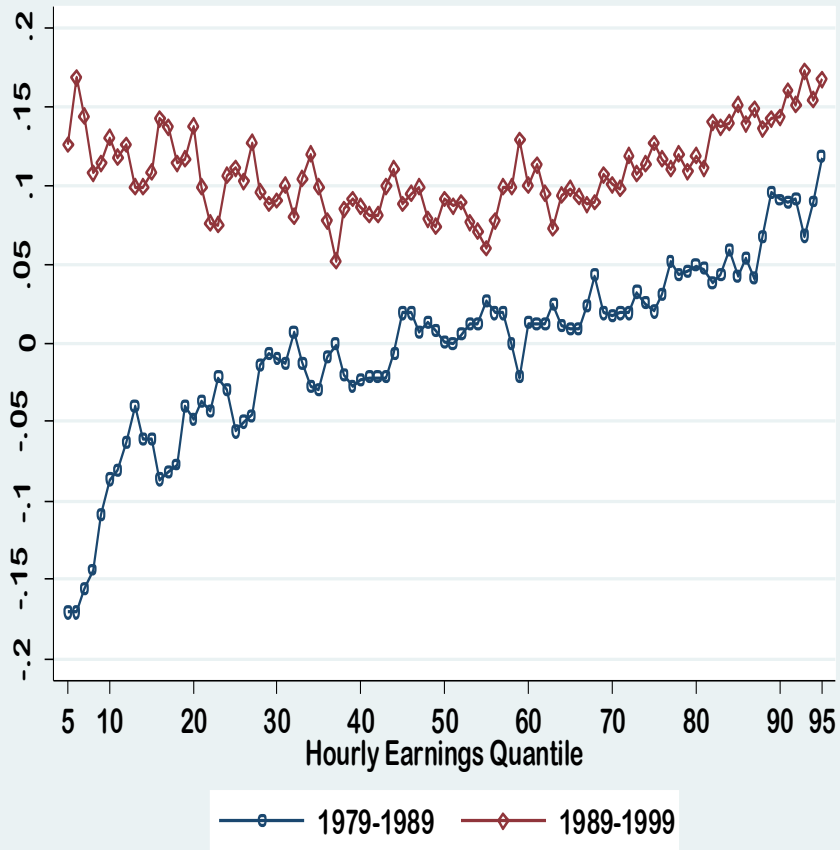
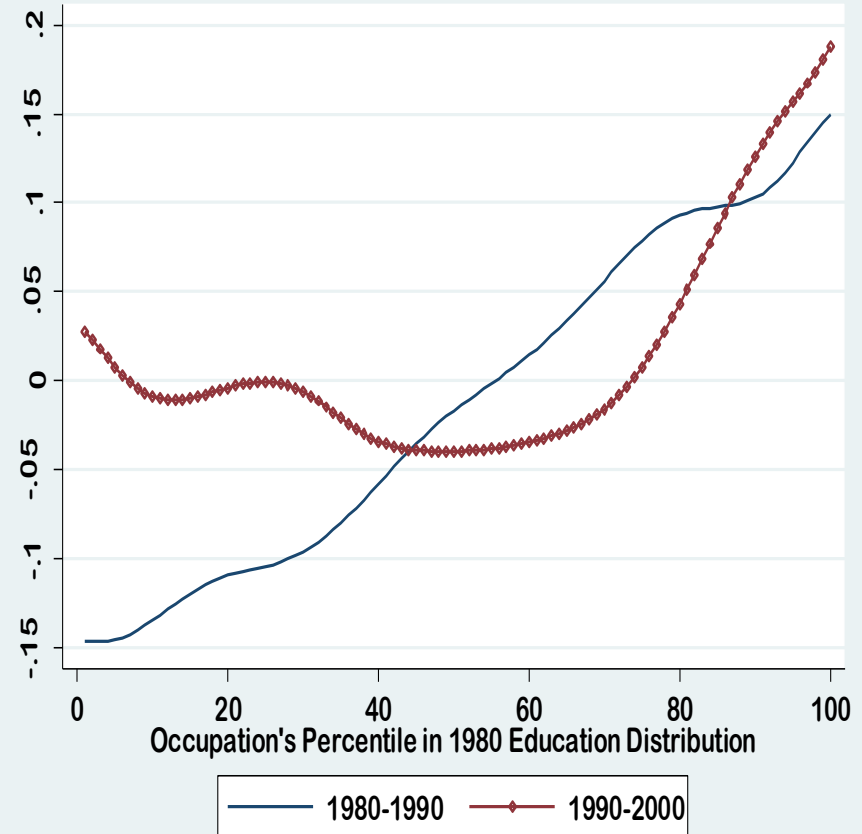


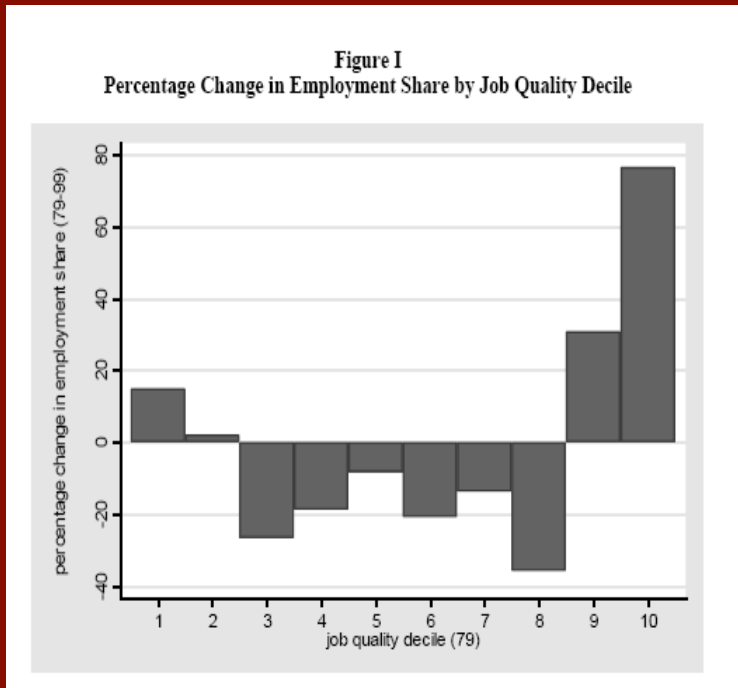
Figure 4. Smoothed Changes in Employment by Occupation 1980-2000



Polarization of Employment Found in Other Countries

(1) UK Job Growth by 'Quality' 1979-1999

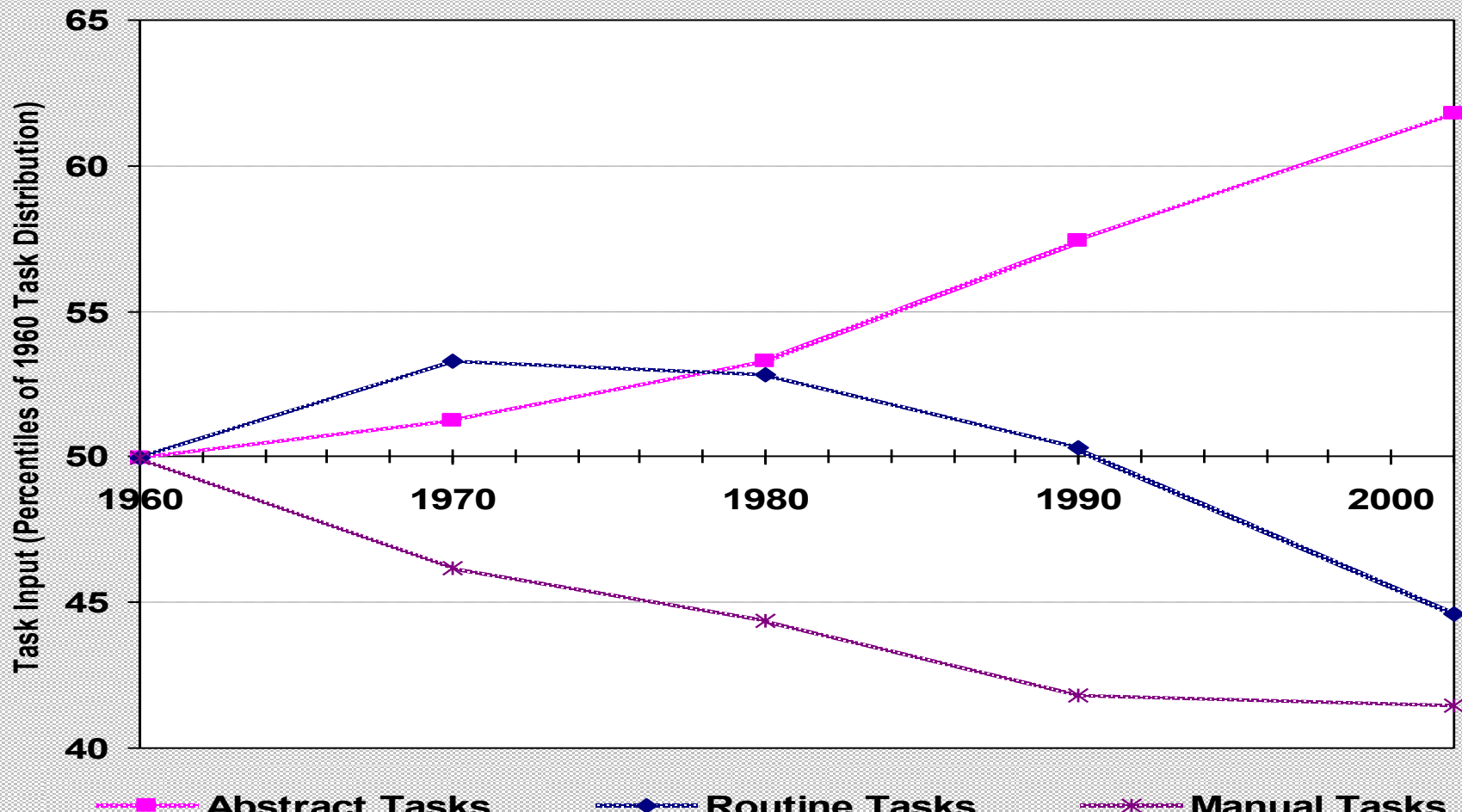
(2) W. Germany Job Growth by 'Skill' 1979-1999



Another Approach: Job Task Content

- High: non-routine cognitive
 - CEOs, lawyers, investment bankers, professors, doctors
 - High complementary with computers
- Middle: Routine, repetitive
 - Bookkeepers, accountants
 - High substitution with computers, outsourcing
- Low: Manual but interactive
 - Truck drivers, nurses, waiters
 - Little complementarity or substitution with computers

Representative Evidence: Trends in Job Task Content 1960 – 2002



Summary

1. The demand for skills may be polarizing:
 - a. **A growth in demand for analytical and managerial work**
 - b. **A growth in demand for service workers**
 - c. **Reduction in demand for 'middle-skilled' white collar jobs**
 - ***Many high and many low-skilled jobs***
 - ***Low-skilled jobs subject to competition from immigrants***

Further Summary on Polarization

1. 'Offshoring' strongly complements technical change:
Middle-skill 'routine' jobs are easiest to offshore.
 - **High skill analytical/creative jobs appear to require 'being there.'**
 - **Many low-skill jobs are also intrinsically 'in-person.'**
 2. Low-skilled service jobs – Many to come!
 - **What will they pay and who will perform them?**
- *Rising demand for both "Lovely and Lousy" jobs (Goos and Manning, 2006)*

Inequality at the Top: the “Winner Take All” Society

- Our 2005 Paper Introduced the Distinction Between Superstars and CEOs
- By Superstars we include
 - Entertainment stars
 - Sports stars
 - Top Lawyers
 - By implication Top textbook authors, painters, musicians

Inequality at the Top: The Superstar Component

- Sherwin Rosen on the “Economics of Superstars”
 - Steep earnings-talent gradient at the top
 - “Hearing a succession of mediocre singers does not add up to a single outstanding performance”
- Earnings premium of superstars depends on the size of the audience
 - Magnification through technical change: phonograph, radio, television, cable television, CDs

Critique: There Aren't Enough Superstars

- Entry level to IRS 99.99 percentile in 2001 was \$3.2 million
 - 99.99 percentile accounted for \$83 billion
- *Forbes* magazine “celebrity 100”
 - Total is \$3.1 billion, average \$31 million
 - Many more celebrities not included, there are far more than 100 celebrities earning > \$10 million salaries for movies, TV

The New "Census" of Sports Stars

- 2820 athletes in major league baseball, basketball, football
- Total income \$7 billion, or \$2.48 million each
- Time series on baseball back to 1988
 - Average increased from \$354,000 to \$2.1 million
 - Inflation-adjusted increase 8.9 percent compared to 6.0 percent for top 99.99

Broadening the Concept of a Super-star

- Superstars include top-paid lawyers, doctors
- A few economists make millions by writing textbooks
- Phenomenon of “continuity”.
 - Wall street salaries raise salaries of business school finance professors, which in turn raise salaries of economics professors
 - Increased pay of CEOs raises pay of next 4 and less so the next 20 or next 100 top managers

The CEO Phenomenon

- This is where the real money is in the 99.99 percentile
- 1989-2000 CEO compensation increased 342 percent compared to 5.8 percent for median hourly wage
 - But this hasn't happened in Europe (UK and Canada are in between)

Substantive Hypotheses about CEOs

- William Shakespeare (*Hamlet*, I, iv):
 - “Something is Rotten in the State of Denmark”
- Why distinguish CEOs from Superstars?
 - Because they can choose their own salaries
 - Because they bribe directors compensation committees with salaries and perks
 - Because they are involved in criminal activity on a daily basis

Bebchuk-Grinstein Study (2005)

- 1500 Firms
 - Average \$14.3 million for CEO
 - Average \$6.4 million for top five officers (exactly the mean income of 99.99)
 - Total of \$48 billion is more than half of income in 99.99
- Cause? Compensation increased 76% more than can be explained by firm size, rate of return, or growth of rate of return
- Flaw in their study? If stock price/earnings ratio increases, then CEO pay could be explained by stock prices not rate of return

Alternative Theories of CEO Pay Ranging from Equilibrium to Conspiratorial

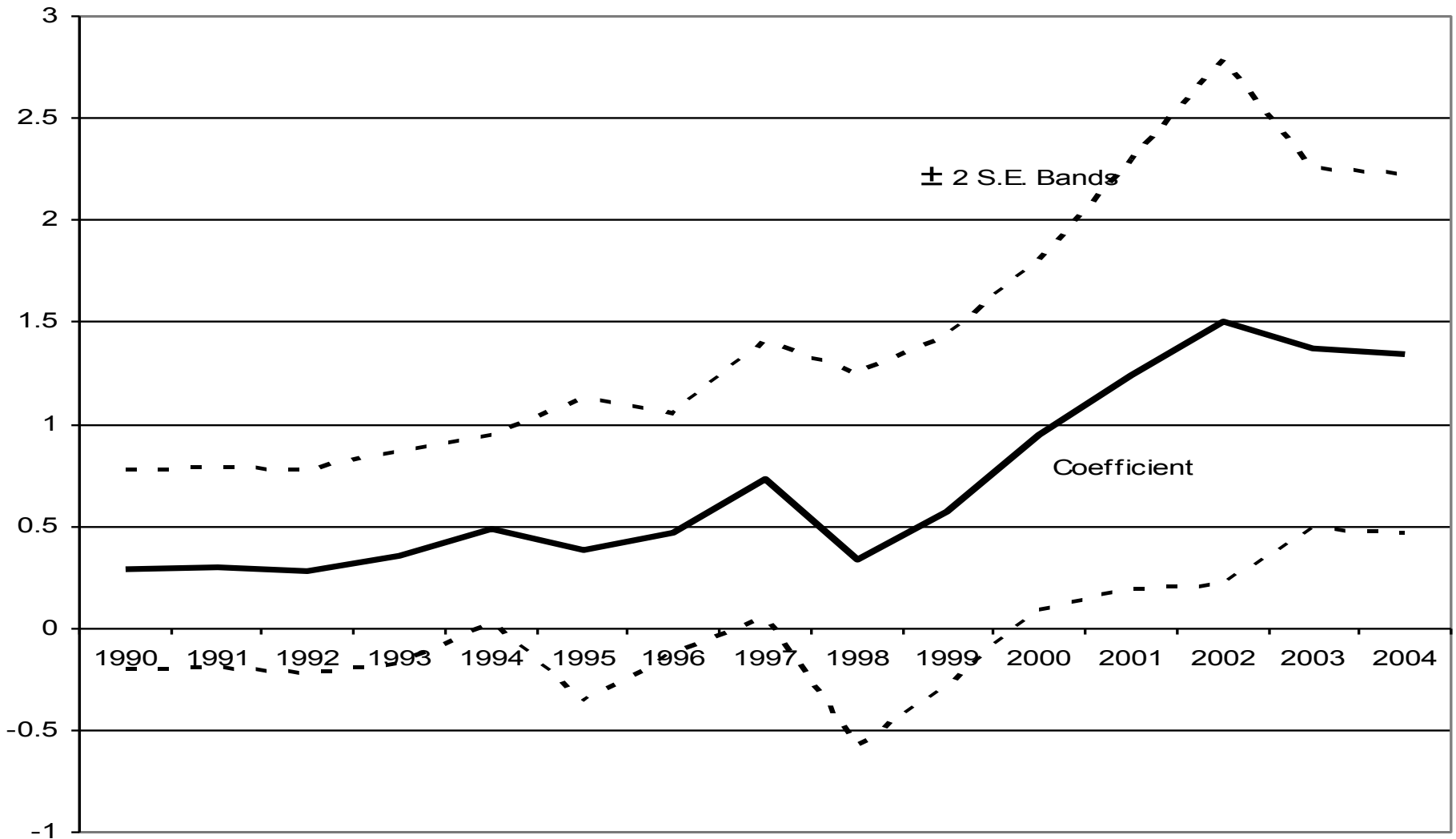
- “Arms-length Bargaining Perspective” (Supply and Demand)
- CEO Pay Proportional to Market Cap
 - Gabaix - Landier
- Bebchuk “Managerial Power” Perspective
 - Limited only by “outrage constraint”
- “Scratch my Back” Model (The “Lake Wobegon Effect”)
 - Garrison Keillor (U. S. public radio weekly two hours). “Where all the men are strong, all the women are beautiful, and all the children are above average”

The Startling Hypothesis of Gabaix-Landier

- CEO Pay is Proportional to Market Cap
- The Elasticity of CEO Pay to Market Cap = 1.0
- This is True in all Eras and all Countries
- Any Shortfall of CEO Pay in Europe is due to Shortfall in Market Cap
- A frontal attack on those who question the arbitrariness of CEO Pay in the US
 - Accounting Scandals
 - Backdating of Stock Options

Is the size-salary elasticity constant?

Figure 1. 20-Year Rolling Regressions of CEO Compensation on Firm Size as in Gabaix and Landier's Table II



Note: The x-axis lists the final year of the regression; standard errors reported are robust.

Why Say More About the Rationality of CEO Pay??

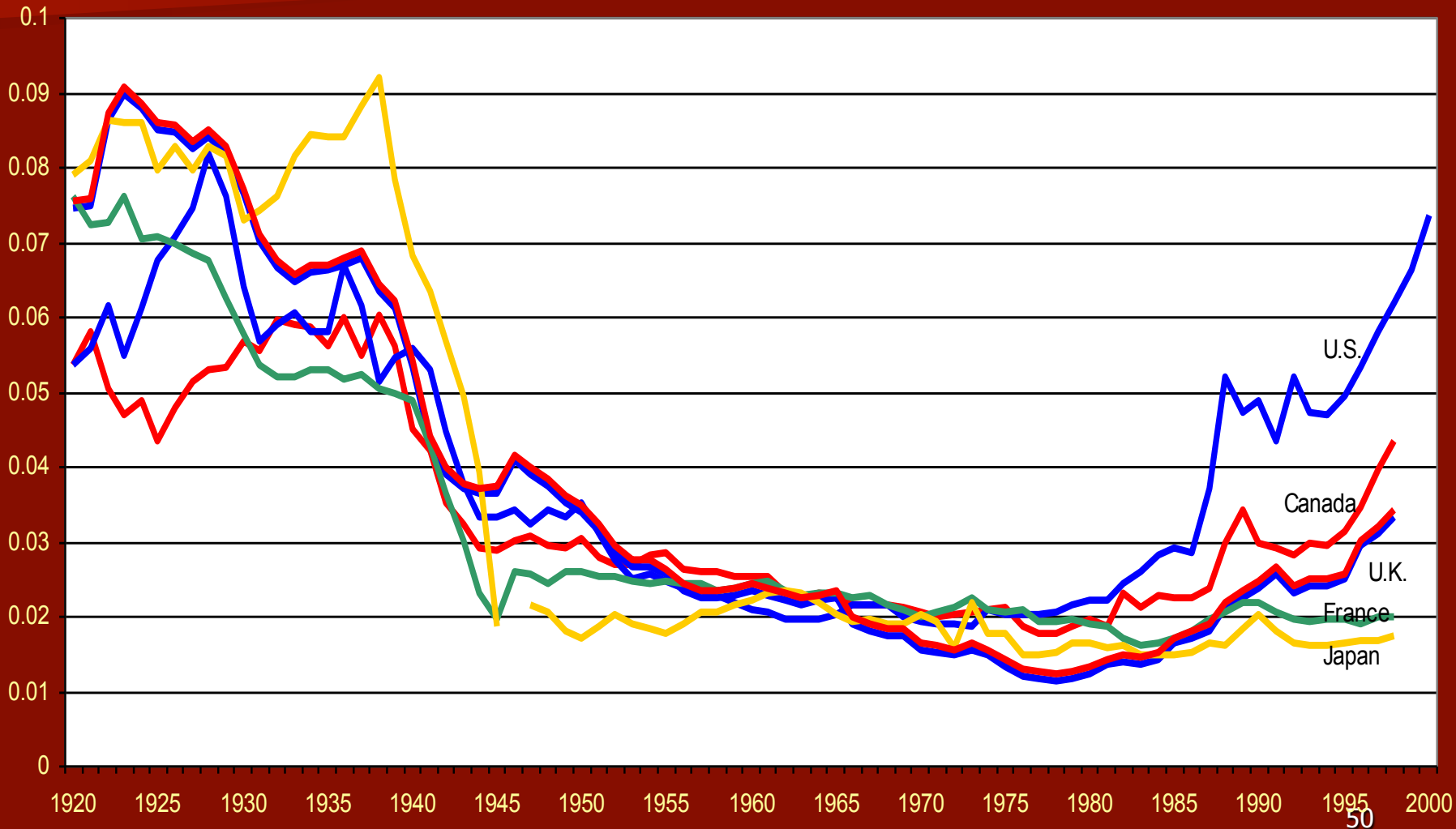
Just Read Newspapers

- Nardelli kicked out as CEO of Home Depot after six years in which stock price declined
 - Compensation package on the job \$240m
 - Golden Parachute \$210m
 - Maybe some overlap, but who cares?
- Bebchuk on Steve Jobs and Apple in WSJ 01/06/07 (“Inside Jobs”)
 - Massive backdating of options
 - Bebchuk paper “Lucky CEOs” this is a massively widespread and pervasive practice. 12% of public firms were involved.

The International Comparison Puzzle

- Data based on the share of the top 1% or 0.1% uniformly show that income inequality in the US grew the most after 1970 (US vs. Canada-UK-France-Japan)
- Data on CEO pay show much higher ratios of CEO/avg worker in US than anywhere else
- Next slide shows ratios for the top 0.1% from 1920 to 1998 (Piketty-Saez and co-authors)
- This includes labor and capital income (dividends, business proprietors) but not capital gains

Income Share of Top 0.1 Percent, Five Countries, 1920-1998



Explanations of Piketty-Saez

- Big decline from 1920s to 1950s was due to destruction of capital income
 - Losses in Depression and WWII
 - Destruction, bankruptcies, inflation
 - Progressive taxation to finance the war
- Switzerland makes the case
 - No wars, low taxes
- Post-1970 in English-speaking countries the “working rich” have replaced the “rentiers”

How to Explain US-UK vs. France and Japan?

- Simple story of increased demand for “executive skills” won’t work, because why not in all countries?
- Two other alternatives:
 - “Social norms” preserving equality in Japan and France prevent competition-driven increase in executive pay (loss of efficiency)
 - US execs have learned to steal from shareholders (no gain of efficiency)
- Revival of “norms” the big theme of Akerlof’s 2007 AEA Presidential Address

Conclusions and Further Research

- Not just income and wealth are concentrated, but real income *growth*
- Not just true of capital income, also of wage and salary income
- 80-90% of the wage distribution does not enjoy wage gains equal to productivity growth
- Lots of research left to do, starting with explanation of cross-country differences

Where are the Policy Recommendations?

- American economists and politicians are paralyzed.
- Feldstein, “should we worry about the fact that basketball stars and some people on Wall Street are making a lot of money, I say no.”
- Increasing evidence that cross-country differences in longevity are correlated with inequality (Sweden vs. US) and that’s important
- Everyone agrees that increasing inequality is not the *result* of policy
 - Oh, really? Aren’t the minimum wage, the protection of unions, and the granting of citizenship to immigrants policy decisions?

What about the Alleged Tradeoff Between Efficiency and Equality?

- What about the outstanding economic performance in the last decade of all the Nordic countries (DK, FI, SD, NO)
- Recent study of Sweden shows no increase in inequality ex-cap gains
- Equal income distribution, preservation of welfare state, minimal child poverty
- Combined with productivity growth at or above the EU average

Now It's Time to Turn the Tables from Europe to the US

- About Europe and France, we are always hearing about the need for reform, the Lisbon Agenda
- Make European labor and product markets a lot more flexible
- But there's a lot wrong with the US that American's don't want to talk about, but I do (hoping for the right Democratic presidential candidate in 2008!)

My policy recommendations for US that prove I'm a left-wing French politician (!)

- Raise marginal tax rate on top 1% from 33% to 50%
- Introduce single-payer government supported health care to eliminate tie of medical care to employment (Big 3 vs. Toyota)
- Eliminate tie of US primary-secondary education funding to local property taxes
- Raise gas taxes by enough to double the price of gasoline from \$3 to \$6 (gradually) and rebate revenue in the form of tax credits to the poor
- Follow Heckman by pouring money into early-childhood intervention programs for the children of poor families