Unsettled Issues in the Rise of American Inequality

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Survey Paper on Rising Inequality in the U. S.

- Comprehensive Scope: Labor’s Share, Inequality at the bottom, at the top, consumption inequality, and international differences

- Overlaps the territory of Autor-Katz about the bottom and Piketty-Saez about the top

- Excluded: college wage premium, transmission of inequality through race, gender, inherited human capital
Rising Inequality has Nothing to do with Labor’s Share

Figure 1a. NIPA Labor Share With and Without Proprietor’s Income, 1950-2007

Compensation with Labor Component of Proprietor's Income

Compensation
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
The Bottom vs. the Top

- CPS conventionally used to study “bottom 90” but top-coding makes it useless to look inside the top 10%
- IRS tax data is oversampled at the top, allows distinction between top 1%, 0.1%, 0.01%
- We use both to assess hypotheses
- Let’s look first at the bottom 90
Point of Departure: Goldin-Margo
“Great Compression”

- Path of inequality U-shaped
  - High before 1930
  - Low 1940-1970
  - Rising after 1970 back to 1920s levels

- Three factors compressed and reversed
  - Rise and fall of unions (decline fast 1980-86)
  - Fall and rise of imports
  - Fall and rise of immigration

- Fourth factor prominent in literature, decline in real minimum wage, esp. 1980-86
CPS Ratios for Men, 1973-2005

Figure 3. CPS Income Ratios by Percentile for Men Only

Percent log index, 1979=0
CPS Ratios for Women, 1973-2005

Figure 4. CPS Income Ratios by Percentile for Women Only
Summary of Differences

- 90-50 ratio rises steadily, reaches +25 percent for men, +21 percent for women
- 50-10 ratio behaves very differently
  - Both rise 1980-88
  - Men rises 1979-86 to +11, then declines back to 1979 level
  - Women rises 1979-88 to +26, still at +24 in 2005
Explanations in the Literature

- Decline in unionization mainly impacts men, explains no more than 15% of increased inequality
  - Affects 50th percentile more than 10th percentile, timing wrong in early 1980s
- Imports, little research or evidence
- Immigration, contentious literature
  - Minimal effect on native Americans on average
  - Bigger effect on college drop-outs
  - Perhaps biggest effect on previous cohorts of immigrants who cluster in particular occupations
Closest Match of Hypothesis with Data:

Real Minimum Wage

- Twice as many women as men are paid the minimum wage.
- Sharp increase 50-10 ratio for women in 1980-88 coincides with timing of drop in real minimum wage.
- Problem: Real min wage increased from $5.10 in 1989 to $6.25 in 1997, then back to $5.15 in 2005.
- But no response of 50-10 ratio for women, which was stable 1988-2005.
Increased Inequality vs. Earnings Mobility

- We were properly chastised by LK for using the term “labor mobility” when we should have used “earnings mobility”
- Labor economists like Katz use “labor mobility” to describe people moving from Michigan to Texas in 1982
- If there were constant churning, with people moving from bottom to top and vice versa, rising earnings inequality would not be a concern
- But literature on earnings mobility shows no increase in mobility, if anything a decrease
Stylized Facts on Earnings Mobility

- Over a decade, roughly 3% move from bottom quintile to top or v.v.
- Over a decade, roughly 50% of people stay in bottom quintile or top quintile
- Churning is limited to the middle three quintiles, income percentiles 20 to 80
- Another study over a decade: the top 1% come 35% from the top 1% ten years earlier, 35% from 95-99, and only 10% from 0-80.
Intergenerational Mobility

- Stark Racial Difference
- Born into the bottom 20%, what is your chance of being in the bottom 20% as an adult?
  - For whites, 17%
  - For blacks, 42%
- No change in mobility over time to offset the observed increases of inequality at the bottom and at the top
Skill-biased Technical Change

- Matters at the bottom and the top
- Steady increase of 90-50 ratio for both men and women consistent with SBTC
- Originally developed as a two-dimensional process
  - Skilled vs. Unskilled
  - Increased supply of Skilled, but increased relative wage
  - Therefore must have been a biased increase in the demand for the skilled
Problem with the Two-Dimensional version of SBTC

- It does not match the occupational distribution of wage increases
- Real earnings increases in 1979-97 for engineers and computer programmers were negligible
- Fully half of increase 1979-97 of college wage premium due to one occupational group, “managers”
More Subtle Versions of SBTC Have Emerged

- A-K-K 2005 a five-dimensional division of skills
- A-K-K 2006 a three-dimensional split, which is enough
- We endorse their “polarization hypothesis”
  - Middle routine skills can be outsourced
  - Top and bottom skills are interactive, but big increase in relative demand for top interactive skills
- Augmented by slowdown in growth of relative supply of college graduates
The Top, Here’s the Core of the Controversy

- 1966-2001 in our IRS data
  - AAGR real labor income per taxpayer:
    Median 0.30 %
    90th 1.30%
    99th 2.26%
    99.9th 3.46%
    99.99th 5.63%
    Baseball players (1988-2005) 8.9%
Key Distinction at the Top: Superstars vs. CEOs

- Pay of superstars chosen by the market vs. pay of CEOs chosen by their peers

- Two varieties of superstars
  - Rosen’s entertainers and sports stars
  - Sharp skewness of demand (hearing ten mediocre performances does not match hearing one really good performance)
  - Magnification of supply. Same effort can be witnessed by one person or ten million

- Intermediate group: lawyers and investment bankers, paid by the market without audience magnification
Can Superstars and CEOs explain that top income?

- This topic juxtaposes two complementary papers, Kaplan-Rauh vs. our first BPEA effort in 2005
- The question is: how much does superstar and CEO income explain of the top 0.01 percent?
- Think of this as numerator and denominator. How much of the denominator can the numerator explain?
Developing a Consensus

- What we learned from Kaplan-Rauh
  - There is a lot of income out there that is not entertainment or sports superstars and not CEOs
  - Wall St investment bankers
  - Hedge fund managers
  - lawyers
What They learned from Us

- The denominator makes a big difference; dividing by AGI (as they did) rather than W-2 income (as we did) reduces the share by a factor of 4
- Lawyers are complicated because they earn partnership income, not W-2 income
- Overall, we conclude that the incomes identified by Kaplan-Rauh account for at least 50% of the top 0.01%
Does CEO Pay Respond to Profits or Stock Prices?

- Do Huge Increases in CEO pay reflect a response to profits or market cap?
- P/E ratio 1993-2003 increased only marginally
- Makes sense that increased P/E would spill over to exec comp via stock options
- Time periods matter a lot
The Famous Gabaix-Landier Model

- Basic result: Elasticity of CEO pay to market cap is always and everywhere 1.0. Sixfold increase of both 1980-2003.
  - Their model is not just empirical but theoretical: superstar effect in which a small differential in CEO talent generates huge pay differences
Flaws in the Gabaix Evidence

- 1970-2000, exec compensation increased by a factor of 22 while market cap increased by a factor of about 8.
  - This is consistent with Bebchuk-Grinstein
- Frydman-Saks go back to 1936 and overturn all of G-L’s results
  - Cross-section elasticity of about 0.3
  - Time-series elasticity varies wildly from 0.16 in 1946-75 vs. 2.65 in 1976-2005
- We conclude that something else is pushing up CEO pay relative to market cap
Replicating the G-L Result with Rolling 20-yr Regressions, 1970-2005

Figure 5. 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.
Summary: G-L Unitary Elasticity is not supported for any time period

- Two Possible Conclusions from Lack of Stability of CEO to Market Cap Relationship over Time
  1. There may be no connection
  2. There is a connection, but their model is wrong and yields the wrong elasticity
What’s Wrong with the G-L Model

- Particular model structure of G-L implies that as firms grow in size, they will be able to afford a more talented CEO.
- Increasing returns in model implying that all firms will merge into a single firm under a single CEO.
- Stock option literature – firms want to reward performance, so why do they reward nominal stock price appreciation compared to relative appreciation vs. peer firms.
- Why do firms choose option grants which are less visible and “hide” CEO pay?
Firm-Level Models of CEO Pay

- Classic principal-agent model in which shareholders control directors and hence firms was overturned by Berle-Means (1932) and RA Gordon (1945)

- Instead, managers control boards and stockholders

- Bebchuk-Fried alternative hypothesis that CEOs have control over their own pay subject only to an “outrage” constraint
Bebchuk-Fried Evidence

- CEOs often sell their options as soon as they are vested, eliminating any incentive effects.
- Option incentives reward execs for aggregate market and macro events, not just their own performance in their firm.
- Firms work hard to disguise incentive pay:
  - Public statements ignore deferred compensation
  - Ignore perks, retirement medical care and others
Overall, the CEO Debate Raises Many Issues

- Was Increased Use of Stock Options in 1990s due to Pay-Performance Incentives or Desire to Disguise Compensation?
- How Does Managerial Control over Stockholders Square with the Efficient Markets Hypothesis?
- Where do Accounting Irregularities and Stock Option Back-dating Fit in?
Conclusion on Inequality at the Top

- SBTC is relevant not only to steady rise of 90-50 ratio but also to skewness at the very top
- Electronic media have increased rewards to sports and entertainment superstars
- Technology has clearly increased trade volumes on Wall St by an order of magnitude and made possible very high incomes there
Why Distinguish Sources of High Incomes?

- Back to basics: superstars are paid by the market, CEOs paid by each other through interlocking compensation committees.
- Arbitrary component, amply documented by backdating of stock options.
- The new vocabulary, e.g., "repricing" and "spring loading" and "exercise backdating"
Consumption Inequality

- Studies Based on CEX, with two sources of data, interview and diary
- CEX numbers are inconsistent, interview vs. diary vs. NIPA data on consumption
- We conclude that the literature on consumption inequality is not interesting because the data are so poor
Figure 6. Share of top 1 percent in Total Income (Labor, Business, and Capital Income, excluding Capital Gains), for U.S., U.K., Canada, France, and Japan, 1920-2000
Why the International Differences?

- **Institutional: America Has a Different Economic System?**
  - This ignores vast differences in the evolution of inequality across OECD outside the US

- **Institutional Elements: Privatization in UK, “consensus” model in NL, IR, GE**

- **GE union reps on boards of directors restrained management excesses**
Our Blend of Explanations

- Institutions, including the above plus much earlier US adoption of stock options
  - Institutions and regulations matter, stock options were illegal in Japan until 1997

- But the market also matters:
  - Given US early adoption of stock options, rising P/E ratios in 1990s spilled over to exec comp