Projecting Long-Run Trends in Earnings Inequality

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The plan

1. Trends in labor income inequality

2. Importance of rising returns to education for explaining the increase in top 5% labor income

   • Recent growth in relative supply suggests education may be “catching up”

4. Reasons for optimism, and pessimism
   • College quality, graduate degrees
   • Possible policy changes
What drives earnings inequality

1. “Economic Fundamentals”
   • Technology, returns to skill, globalization

2. Institutions and Policy
   • Minimum wage, unions, market power, contract work and domestic outsourcing, public investments in education and training

3. Politics and norms
   • Public support for redistribution, “greed is good”, etc..

My quick (perhaps superficial) summary: upper tail (e.g. 95/50) inequality is mostly about #1. lower tail (e.g. 50/10) inequality is mostly about #2. Trends in top 1% and above are driven by the interaction between #1 and #3.
A word about the top 1%

• Globalization, scale, and the economics of “superstars”

• Evidence of rising top earnings inequality in a variety of settings with different compensation structures (e.g. CEOs, musicians, professional athletes)

• Suggests that “superstar” phenomenon is at least partly market-driven (Kaplan and Rauh 2011)

• No strong reason to think that markets will become *more* globalized
  • But ability to translate talent into income could change – mostly about policy (e.g. taxation)
Steady growth in top 5% labor income
Comparing top 1% to 95-99th percentile...

**Income inequality, USA, 1962-2014**

- **Red line**: Pre-tax labor income (pre-tax labor income ranking) | P95-99 | share | adults | equal split
- **Blue line**: Pre-tax labor income (pre-tax labor income ranking) | Top 1% | share | adults | equal split

Graph provided by www.wid.world
Unlike capital income, growth is not exponential at very top...

**Income inequality, USA, 1962-2014**

- **Red line**: Pre-tax labor income, [pre-tax labor income ranking] | P99-99.9 | share | adults | equal split
- **Blue line**: Pre-tax labor income, [pre-tax labor income ranking] | P99.9-100 | share | adults | equal split

Graph provided by [www.wid.world](http://www.wid.world)
Very different picture for capital.....

Income inequality, USA, 1962-2014

Graph provided by www.wid.world
Cumulative percent change in inflation-adjusted hourly wages for all workers at the 10th, 50th, and 90th percentiles, 1979–2017

Source: Schmidt, Gould and Bivens (2018)
Fig. 6 Change in real wage levels of full-time workers by education, 1963–2012.

Changes in real wage levels of full-time U.S. workers by sex and education, 1963–2012

Real weekly earnings relative to 1963 (men)

Real weekly earnings relative to 1963 (women)

Source: Autor (2014)
Educational Attainment Composition of High Earners

Share of Workers with Earnings over the SSA Taxable Maximum in each year

Source: Census and ACS, population age 25-54
Fig. 1 College/high school median annual earnings gap, 1979–2012.

College/high school median annual earnings gap, 1979–2012
In constant 2012 dollars

- Household gap: $30,298 to $58,249
- Male gap: $17,411 to $34,969
- Female gap: $12,887 to $23,280

David H. Autor Science 2014;344:843-851

Source: Autor (2014)
Growing wage inequality strongly linked to educational attainment

• Rising share of earners above the SSA taxable maximum are highly educated
  • Particularly large growth among graduate degree holders
  • In 1980, less than half of prime-age workers above the SSA maximum had a BA or higher.
  • By 2017, this figure was nearly 85 percent.

• Between 1979 and 2012, the gap in household income between two-earner families where neither have a BA vs. both have a BA grew by about $28,000.
  • If you redistribute all the gain in income accruing to the top 1% over this period to the bottom 99%, you get about $7,000 per household.
  • Thus the earnings gaps generated by rising returns to education is 4 times larger than the growth in top 1% income
The Race Between Education and Technology

• SDI framework (Katz and Murphy 1992, Goldin and Katz 2009) predicts college premium using:
  1. Supply of skills – Ratio of college grads to high school grads
  2. Time trend (flexible)

• Ask whether changes in the (relative) frequency of college grads is strongly correlated with changes in the *economic return* to a college degree.

• If supply is growing, and college premium still rising, demand must have grown *faster*
The supply of college graduates and the U.S. college/high school premium, 1963–2012

A. College share of hours worked (%), 1963–2012: All working-age adults

B. College versus high school wage gap (%)

Source: Autor (2014)
Tertiary Education Completion in OECD Countries as of 2012 by Age Groups, 25 – 34 and 55 – 65

Population with tertiary education
Percentage, by age group

1. See notes at the end of this chapter.

Countries are ranked in descending order of the percentage of 25-34 year-olds with tertiary education.

Source: Survey of Adult Skills (PIAAC) (2012), Table B2.2 in Annex B.
Changes in the 90/10 Ratio of Full-Time Male Earnings Across Twelve OECD Countries, 1980-2011

Numbers at the base of each bar correspond to the 90/10 earnings ratio in each country in 1980.

- France: 3.3
- Finland: 2.4
- Japan: 2.6
- Sweden: 2.0
- Korea: 4.1
- Germany: 2.4
- Denmark: 2.1
- Netherlands: 2.2
- Australia: 2.7
- New Zealand: 2.1
- United Kingdom: 2.7
- United States: 3.6

Autor 2014
What can we expect to see in the future?

• Reasons to expect slower growth (or reduction) in inequality
  • Evidence of reduced inequality in achievement among younger cohorts
  • Driven by gains at the bottom

• Rising college completion in recent years, including graduate degree attainment
Figure 3. Trend in NAEP reading percentile scores for 9-year-old students

* Significantly different (p < .05) from 2012.

Source: NAEP Long Term Trend
Educational Attainment of Persons Age 25-29, by Year

Source: Digest of Education Statistics, Table 104.20
What can we expect to see in the future?

• Increasing academic skills at the bottom of the distribution
  • Starts among cohorts who would be completing college around 2005
  • Coincides with rising college attainment
  • If trend holds, we will see more growth in college supply for the next 10-12 years

• Reasons to expect continued growth in earnings inequality
  • Selective colleges aren’t expanding
  • Most of the growth in less-selective, open enrollment institutions
  • For-profit, online degrees
  • Will these marginal graduates be high earners?
Parent Income Distributions by Quintile for 1980-82 Birth Cohorts
At Selected Colleges

- Harvard University
- UC Berkeley
- SUNY-Stony Brook
- Glendale Community College

Parent Income Quintile

Percent of Students

Top 1%
Mobility Rates: Success Rate vs. Access by College

Success Rate: \( P(\text{Child in Q5} \mid \text{Par in Q1}) \)

Access: Percent of Parents in Bottom Quintile

- **Ivy Plus Colleges (Avg. MR = 2.2%)**
  - Princeton
  - MIT
  - Stanford
  - Columbia
  - Harvard
  - Yale
  - Brown
  - Duke

- **Public Flagships (Avg. MR = 1.7%)**
  - University Of California, Berkeley
  - University Of Michigan - Ann Arbor
  - University Of North Carolina - Chapel Hill
  - University Of New Mexico
  - University Of New York At Buffalo

- **Chicago State University Of New York At Buffalo**

- **MIT**
Mobility Rates: Success Rate vs. Access by College

Success Rate: $P(\text{Child in Q5} \mid \text{Par in Q1})$

Access: Percent of Parents in Bottom Quintile

- Community Colleges
Summing up

1. Rising returns to college education are a first-order contributor to labor earnings inequality.
   - Changes in college premium can plausibly have large impacts on the share of GDP going to wages below/above the social security maximum

2. The supply-demand (SDI) framework is a simple, powerful predictor of changes over time in the return to a college degree.

3. Applying the framework to most recent cohorts has predicted a slowdown (not reversal) in the college premium.

4. Based on trends in achievement, supply growth may continue for at least the next 10-15 years.
   - Will the demand for education continue to grow? Will it accelerate?
Other Issues

- **Earnings volatility**
  - Some evidence that education reduces individual earnings volatility (e.g. Delaney and Devereux 2019)
  - But also evidence of rising overall earnings volatility (Carr and Wiemers 2017)

- **Education as an indicator**
  - Schooling decisions made early in life, and have long-lasting impacts
  - To forecast *farther* out, use trends in attainment

- **Educational upgrading**
  - Returns to a HS degree are now very small (among FT workers)
  - The “some college” group is starting to look more like HS degree holders
  - Returns to BA only have flatlined, rising returns to grad degrees
  - Is high school the new college?
Source: Marsh and Tuzemen (2018)