Inequality in America: Before and after the Great Recession

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Conversations with the Fed

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Outline

- Macroeconomics and inequality
- Examples of inequality in society and in our lives
- A case study: inequality and non participation among US men
Income per capita

- Each year/quarter residents of a country creates value (e.g. cars, books, haircuts) which translate into income
- For example, *on average*, in 2010 each person in the US received around $60k of Gross Domestic Product (GDP)
- Many macroeconomists study the evolution of this income over time
US Real GDP per Capita: 1947-2018

Differences in pc income across time: Large (factor of 3 in 50 years)
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Income and Inequality

- Income inequality measures focus on how income is distributed across households/persons.
- For example, in 2017, 10% of US households made less than $14,000 of income, and 10% of US households made more than $140,000 of income.
- Differences in income across households: **HUGE** (factor of 10 in the same year).
How do we measure inequality?

Simple measures of inequality: 90-10, 50-10, 90-50 ratios, Gini Index, Shares

- **90/10 ratio** = \( \frac{\text{Characteristic (Income, Wealth, Happiness) of household at the top 10\%}}{\text{Same Char. of household at the bottom 10\%}} \)

- **Gini index**: measure of concentration
  - 1 if only one household receives has it all (income, wealth..)
  - 0 if the variable is equally distributed across households

- **Shares**: share of var going to the top x%
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- Measures Matter!
Income Inequality at the top: top 1% share, 1914-2017

Top 1% US Pre-Tax Income Share, 1913-2017

Source: Piketty and Saez, 2003 updated to 2016. Series based on pre-tax cash market income including realized capital gains and excluding government transfers.
Poverty threshold for a family of 4 in 2017 is 25k
Income inequality across races

Real Median Household Income by Race and Hispanic Origin: 1967 to 2017

- White, not Hispanic
- All races
- Hispanic (any race)
- Black
- Asian

2017 dollars

Recession


$81,331
$68,145
$61,372
$50,486
$40,258
Income inequality across sexes

Female-to-Male Earnings Ratio and Median Earnings of Full-Time, Year-Round Workers 15 Years and Older by Sex: 1960 to 2017

- **Ratio in percent**
  - 80.5 percent

- **Earnings in thousands (2017 dollars)**
  - Earnings of men: $52,146
  - Earnings of women: $41,977
Inequality in consumption expenditures
Inequality in wealth

Table 4: Shares in aggregate income and wealth

<table>
<thead>
<tr>
<th></th>
<th>Income</th>
<th>Wealth</th>
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<tbody>
<tr>
<td>bottom 50%</td>
<td>21.6 21.6 16.2 15.4 14.5</td>
<td>3.0 3.0 2.9 2.5 1.2</td>
</tr>
<tr>
<td>0%- 25%</td>
<td>6.1 6.2 5.0 4.5 4.5</td>
<td>-0.1 -0.2 -0.1 -0.1 -0.4</td>
</tr>
<tr>
<td>25%-50%</td>
<td>15.5 15.4 11.3 11.0 10.1</td>
<td>3.1 3.2 3.0 2.6 1.6</td>
</tr>
<tr>
<td>50%-90%</td>
<td>43.9 47.7 43.8 40.3 37.9</td>
<td>24.7 26.3 29.5 26.0 21.5</td>
</tr>
<tr>
<td>50%-75%</td>
<td>23.5 24.9 22.5 20.3 18.4</td>
<td>9.8 10.5 11.7 10.2 7.2</td>
</tr>
<tr>
<td>75%-90%</td>
<td>20.4 22.8 21.4 20.0 19.5</td>
<td>14.8 15.8 17.8 15.8 14.3</td>
</tr>
<tr>
<td>top 10%</td>
<td>34.5 30.7 39.9 44.3 47.6</td>
<td>72.3 70.7 67.6 71.5 77.4</td>
</tr>
</tbody>
</table>

Figure 5: Gini coefficients with confidence bands

Panel (a) Income

Panel (b) Wealth

Notes: Gini coefficient of income (panel (a)) and wealth (panel (b)) with 90% confidence bands. Confidence bands are shown as gray areas, and point estimates are connected by lines. Confidence bands are bootstrapped using 999 different replicate weights constructed from a geographically stratified sample of the final dataset.
The persistence of Income Inequality

Figure 8.1. **Estimates of the intergenerational earnings elasticity** for selected OECD countries

Note: The height of each bar represents the best point estimate of the intergenerational earnings elasticity resulting from the meta-analysis carried out by Corak (2006), integrated with estimates from national studies for a few countries. Higher parameters indicate a higher persistence of earnings across generations (i.e. lower intergenerational mobility).
Health Inequality

• In 1980, life expectancy at age 25 for males was about 72 years.

A 1990 study analyzed mortality of 1.3 million Americans and linked it to their income (Million deaths study).

- Poor males (less than $5000): life expectancy 68 years.
- Non-Poor males (more than $5000): life expectancy 78 years.

Confirmed in recent studies on deaths of despair.
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Grade Inequality

- The average GPA in economics at Georgia Tech in Spring 2007 was 2.97
- About 10% of the student got a grade of D or below
Inequality is a double edge sword

- Why is inequality bad?
- Concavity, i.e. bad things hurt us more than good things help us. The loss of having a child going from well fed to starvation, is much larger than the gain of driving a fancy car v/s regular car
- Too much concentration of resources in few hands might lead to monopoly power and inefficient outcomes
- Mis-allocation of resources: suppose smart children are born poor and cannot go to school. Waste of talent
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• Does the US have too much inequality?
I.1. THE DISTRIBUTION OF HOUSEHOLD INCOME IN OECD COUNTRIES: WHAT ARE ITS MAIN FEATURES?

While all groupings of countries into more homogeneous clusters have a degree of arbitrariness, Figure 1.1 allows distinguishing among five groups of countries.

- At the left end of the chart are Denmark and Sweden, with Gini coefficient values of around 0.23, i.e. below the OECD average by more than 0.07 point (25%). This group of countries is characterised by “very low” income disparities.
- A second group includes countries with Gini coefficients that fall below the OECD average by a lesser extent. These are (in increasing order of the Gini coefficient) Luxembourg, Austria, the Czech and Slovak republics, Finland, the Netherlands, Belgium, Switzerland, Norway, Iceland, France, Hungary, Germany and Australia, all countries with Gini coefficients between 0.26 and around 0.30, i.e. falling below the OECD average by between 17% and 3%.
- A third group includes countries with Gini coefficients that are above the OECD average, although not much higher than those in the second group. These include Korea, Canada, Spain, Japan, Greece, Ireland, New Zealand and the United Kingdom – all countries with Gini coefficients between 0.31 and 0.34, i.e. exceeding the OECD average by up to 0.25 point (between 1% and 8%).
- A forth group includes Italy, Poland, the United States and Portugal, with Gini coefficients exceeding the OECD average by between 0.04 and 0.07 point (from 13% to 24%).
- At the upper end of the figure are Turkey and Mexico, which stand out for their very high level of income inequality (38% and 52% above the OECD average), although this is true today to a lesser extent than in the past.

The Gini coefficient is only one among many summary indexes of the underlying distribution. Because different summary indexes are especially sensitive to different parts of the Lorenz curve, the country-ranking may partly depend on the specific inequality measure used. Table 1.A2.2 shows how four other summary measures of income inequality compare to the Gini coefficient. Overall, these different measures tell a consistent story: cross-country correlations between different inequality measures and the Gini coefficient

StatLink
http://dx.doi.org/10.1787/420515624534

Note: Countries are ranked, from left to right, in increasing order in the Gini coefficient. The income concept used is that of disposable household income in cash, adjusted for household size with an elasticity of 0.5.

Source: OECD income distribution questionnaire.

Change relative to 1967

P95
P90
P50
P20

Sample: March CPS, All Males, Aged 25-55
Main Features

- Widening dispersion, at both the top and the bottom

- Increase at the top: steady

- Increase at the bottom: cyclical

- Inequality at the bottom increases sharply in recession, only partially recovers in expansions
Inequality at the Bottom: 1967-2017

Sample: March CPS, All Males, Aged 25-55

50/20 ratio
The Tale of the Tails
Mid 45-55%

Change from 1967
Earnings
Weeks Worked
Wages

1967 2017
50 50
760 800
38k 40k

Top 85-95%

Weeks Worked 1967 2017
50 50
Weekly Wages (2012$) 1.4k 2.3k
Annual earnings (2012$) 70k 120k

Bottom 0-20%

Weeks Worked 1967 2017
38 15
Weekly Wages (2012$) 310 250
Annual earnings (2012$) 11.7k 3.7k
Intensive and Extensive Margins at the Bottom

Weeks (cond. on working)

Weeks Worked
1967: 38
2017: 15

Weeks (cond. on working)
1967: 43
2017: 37

Fraction working
1967: 88%
2017: 40%

Sample: March CPS, Males, Aged 25-55
Summary

- **At the top**: growth in earnings all driven by wages (weeks flat)

- **In the middle**: weeks and wages both flat

- **At the bottom**: large decline in weeks (mostly extensive margin), small decline in wages (conditional on working)
Inequality and Non-Employment

Sample: March CPS, Males, Aged 25-55
Dynamics of Bottom Earnings Inequality

<table>
<thead>
<tr>
<th>Non-employment</th>
<th>Trend</th>
<th>Recessions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Goes up</td>
<td>Goes up</td>
</tr>
<tr>
<td>Earnings of bottom 20%</td>
<td>Goes down</td>
<td>Goes down</td>
</tr>
<tr>
<td>Inequality at the bottom (50/20)</td>
<td>Goes up</td>
<td>Goes up</td>
</tr>
</tbody>
</table>

- Two interpretations:
  1. Recessions increases inequality, and long run increase is cumulative effect of series of recessions
  2. Inequality on a secular upward trend, and business cycles just generate fluctuations around this trend

- Data alone cannot differentiate between these interpretations: need a model!
A Theory of a “Double Whammy”

- Recessions are times when lots of workers lose their jobs

- With their jobs, they lose skills (scarring)

- Job/skill loss disproportionately impacts low-skilled workers, who may already be marginal labor market participants

- In recoveries most jobs/skills slowly return, unless...

- Recession happens against backdrop of trend decline in low skill wages relative to “value of leisure”

- In which case, lost low skill jobs might never come back
• Recessions (through scarring) have had an important effect on the increase in inequality at the bottom of the income distribution and on the increase in non-employment of men

• But recessions alone would have had much smaller impact on inequality and non employment

• Combination of recessions and increase in secular inequality have acted as "double whammy" on the bottom half of the distribution and jointly account for the increase in inequality and non employment
Policy Takeaways

- Recessions have very persistent impacts on non-employment and inequality
- These costs of recessions have likely increased over time because of background upward trend in wage inequality
- Big gains from prolonged economic expansions – skill gains during employment reduce risk of long-run non-employment
Conclusions

- Inequality is a controversial topic
- Inequality research is fascinating as it ultimately leads to the design of better societies for us and our children!
- The Minneapolis Fed is at the forefront of this research