Osher Lifelong Learning Institute, Winter 2022
Contemporary Economic Policy

Clemson University

National Economic Education Delegation

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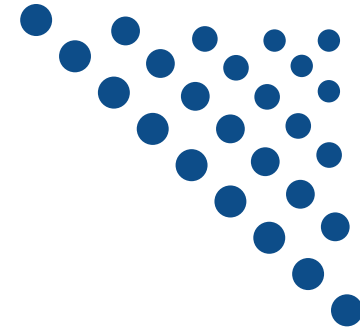
Economic Inequality

Brian Peterson, Ph.D.
Senior Associate Academic Dean and Professor of Economics
Central College, Pella, Iowa

Osher Lifelong Learning Institute, Clemson University
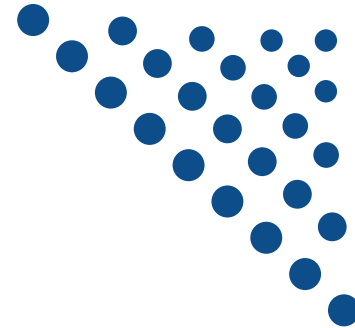**7 March 2022**

Course Outline

- **Contemporary Economic Policy**

    - Week 1 (2/28): US Economy & Coronavirus Economics

    - **Week 2 (3/7): Economic Inequality (Brian Peterson, Central College)**

    - Week 3 (3/14): Cryptocurrencies (Geoffrey Woglom, Amherst College)

    - Week 4 (3/21): Autonomous Vehicles (Jon Haveman, NEED)

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Submitting Questions

- **Please submit questions in the chat.**
  - I will try to handle them as they come up but may take them in a bunch as time permits.

- **I will try to leave a few minutes for a verbal Q&A once the material has been presented.**
  - (and the questions in the chat have been addressed)

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National Economic Education Delegation
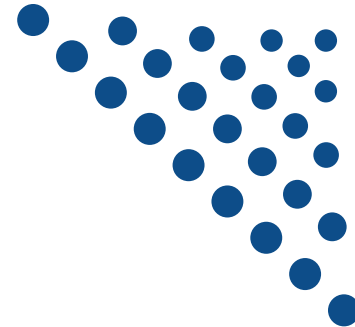
- **Vision**
  - One day, the public discussion of policy issues will be grounded in an accurate perception of the underlying economic principles and data.

- **Mission**
  - NEED unites the skills and knowledge of a vast network of professional economists to promote understanding of the economics of policy issues in the United States.

- **NEED Presentations**
  - Are **nonpartisan** and intended to reflect the consensus of the economics profession.

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Who Are We?

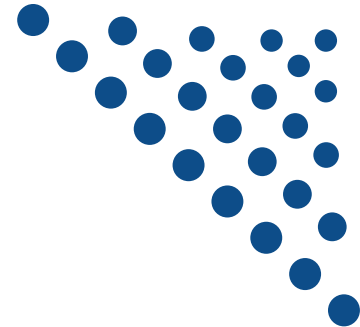- **Honorary Board: 54 members**
  - 2 Fed Chairs: Janet Yellen, Ben Bernanke
  - 6 Chairs Council of Economic Advisers
    - Furman (D), Rosen (R), Bernanke (R), Yellen (D), Tyson (D), Goolsbee (D)
  - 3 Nobel Prize Winners
    - Akerlof, Smith, Maskin
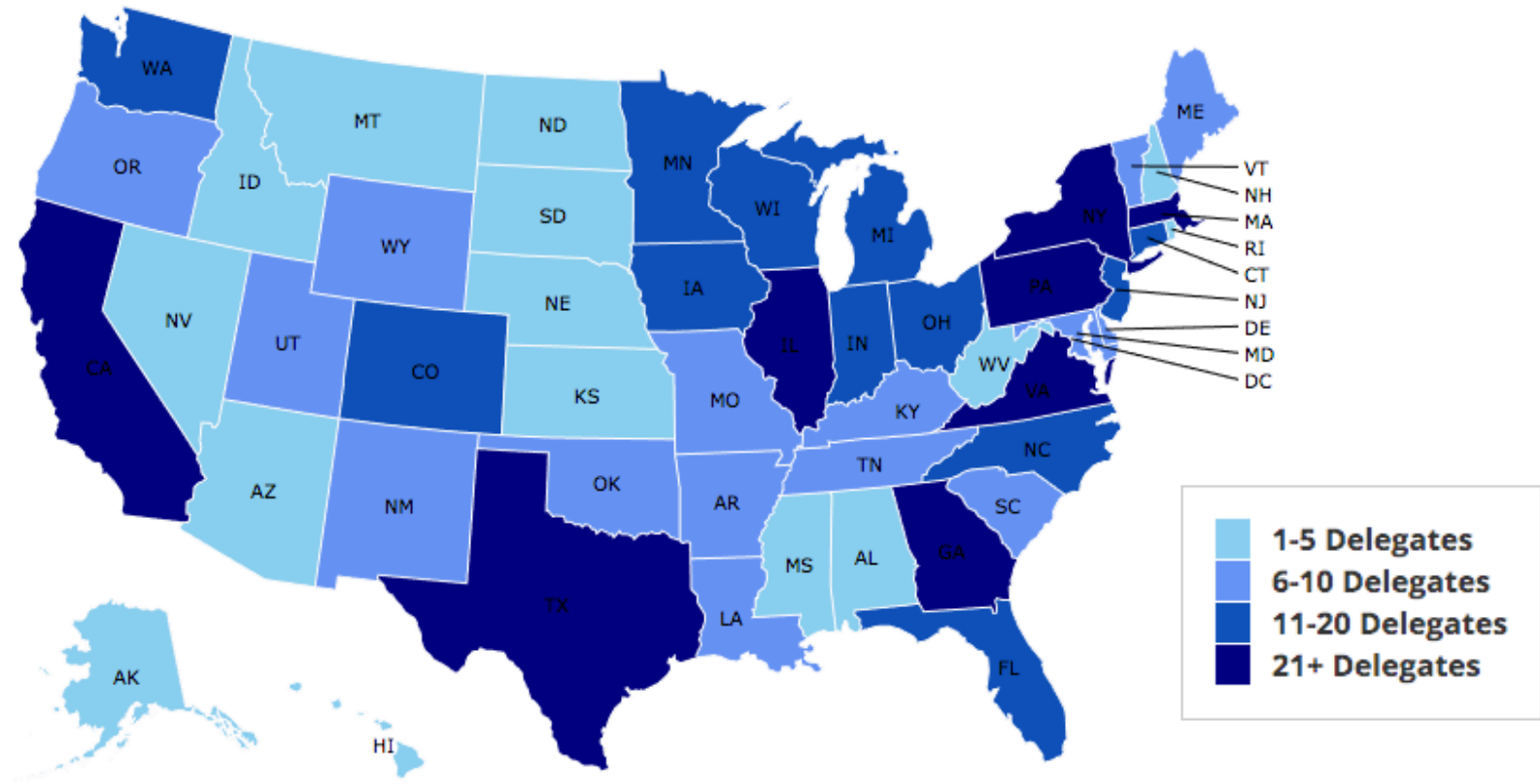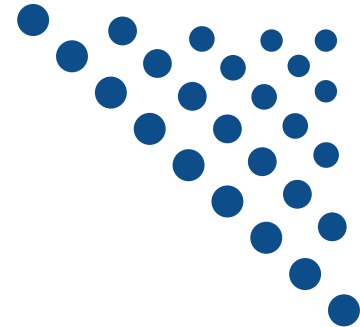
- **Delegates: 650 members**
  - At all levels of academia and some in government service
  - All have a Ph.D. in economics
  - Crowdsource slide decks
  - Give presentations

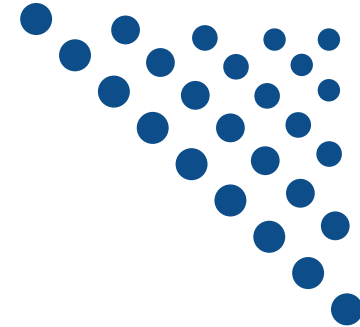- **Global Partners: 48 Ph.D. Economists**
  - Aid in slide deck development

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Where Are We?

Legend:
- 1-5 Delegates
- 6-10 Delegates
- 11-20 Delegates
- 21+ Delegates

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Available NEED Topics Include:

- **Coronavirus Economics**
- **US Economy**
- **Climate Change**
- **Economic Inequality**
- **Economic Mobility**
- **Trade and Globalization**
- **Minimum Wages**

- **Immigration Economics**
- **Housing Policy**
- **Federal Budgets**
- **Federal Debt**
- **Black-White Wealth Gap**
- **Autonomous Vehicles**
- **US Social Policy**

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Credits and Disclaimer
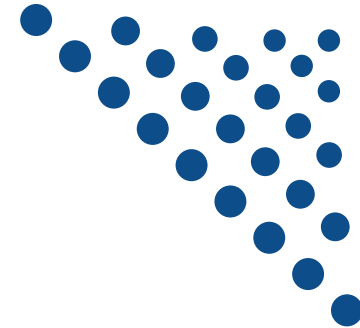
- **This slide deck was authored by:**
  - Jon Haveman, Executive Director of NEED
- **This slide deck was reviewed by:**
  - Timothy Smeeding, University of Wisconsin
  - Robert Wright, Augustana University
- **Disclaimer**
  - NEED presentations are designed to be nonpartisan
  - It is, however, inevitable that the presenter will be asked for and will provide their own views
  - Such views are those of the presenter and not necessarily those of the National Economic Education Delegation (NEED)
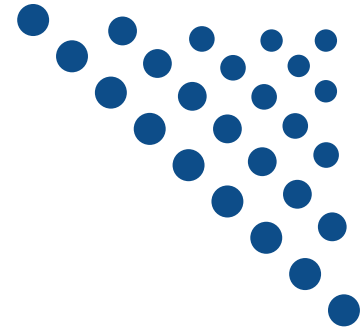
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Economic Inequality

Brian Peterson, Ph.D.
Senior Associate Academic Dean and Professor of Economics
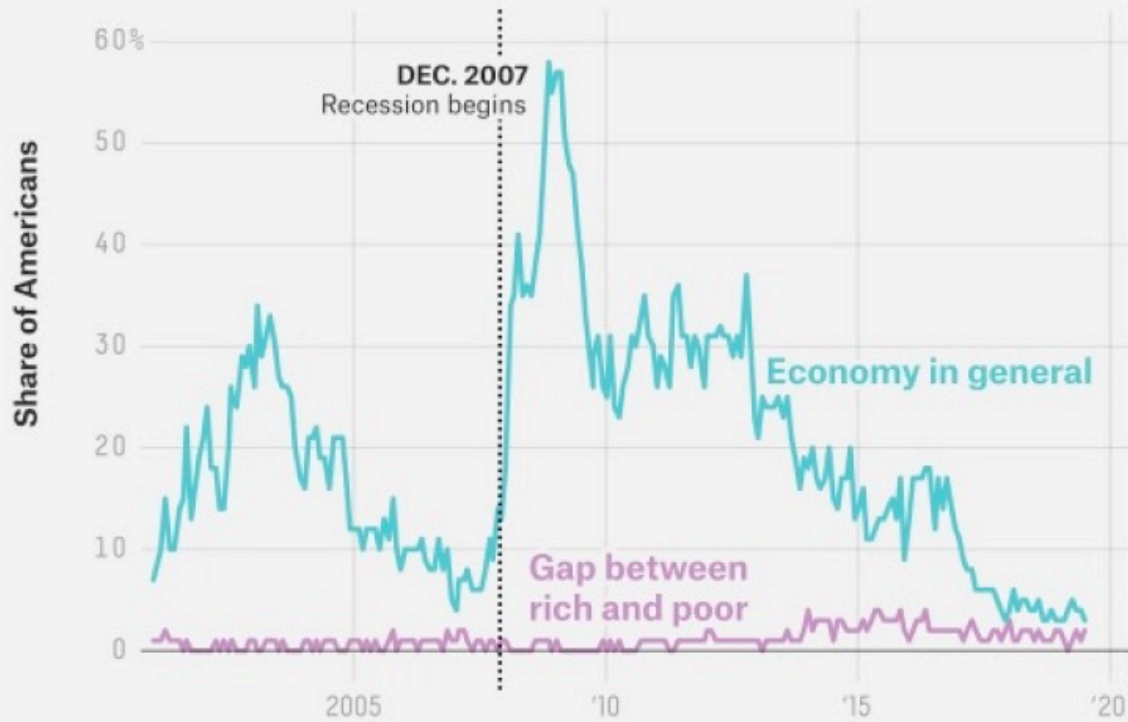*Central College, Pella, Iowa*

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7 March 2022

Few Americans prioritize economic inequality

Share of Americans who said the "economy in general" or the "gap between rich and poor" was the most important issue facing the country
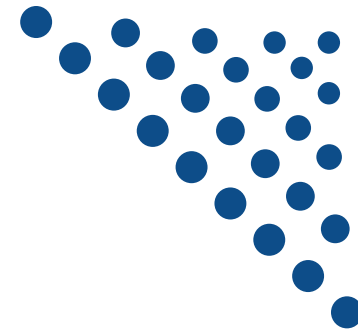
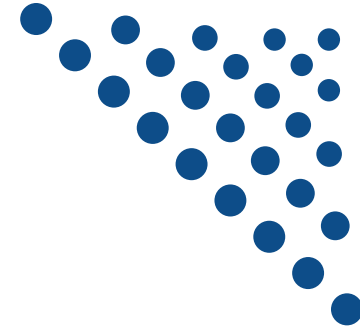# Outline

- **Definition**
- **Measurement**
- **How does it happen?**
- **Does it matter?**
- **Is it a problem?**
- **What do we do about it?**

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Economic Inequality: Income

- **Definition:**

  - The extent to which the distribution of income deviates from complete equality

  - The dispersion of income throughout the economy

Different Ways of Thinking About Inequality
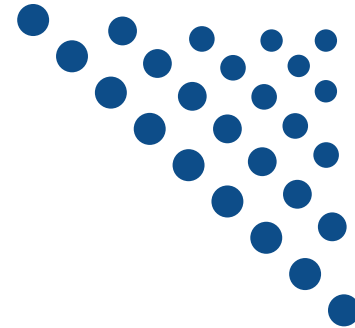
- **Income Inequality**
  - Before taxes and transfers
  - After taxes and transfers
- **Wealth Inequality**
- **Consumption Inequality**

National Income Inequality: Share of Top 10%

50.5

Stock Market Crash

WWII

Dot-com Bubble

Housing Bubble

Top 10% Income Share

Year: Through 2018

Source: Piketty and Saez, 2003 updated to 2018.
Graph by: National Economic Education Delegation (www.NEEDelegation.org)

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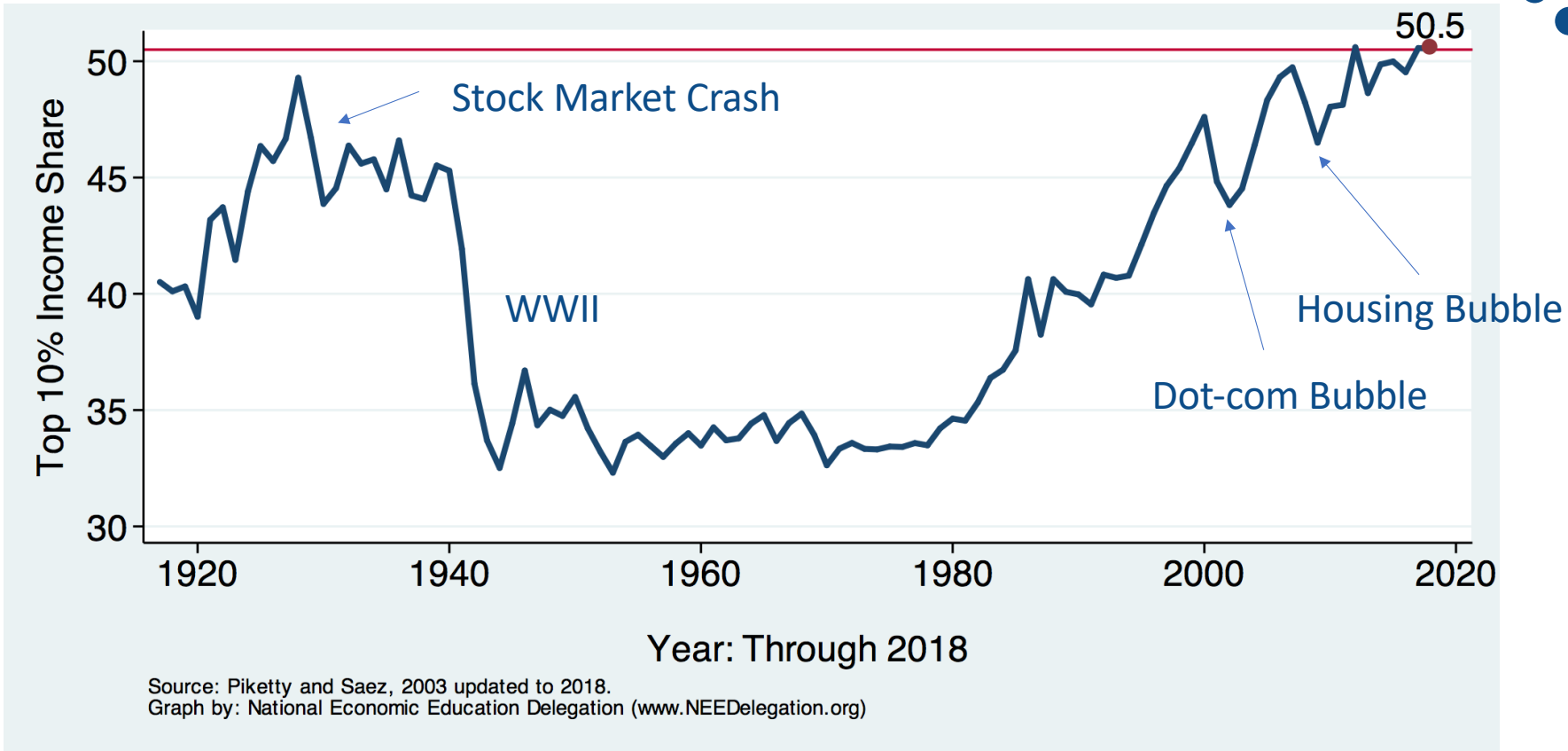
Recent Facts on Income Inequality

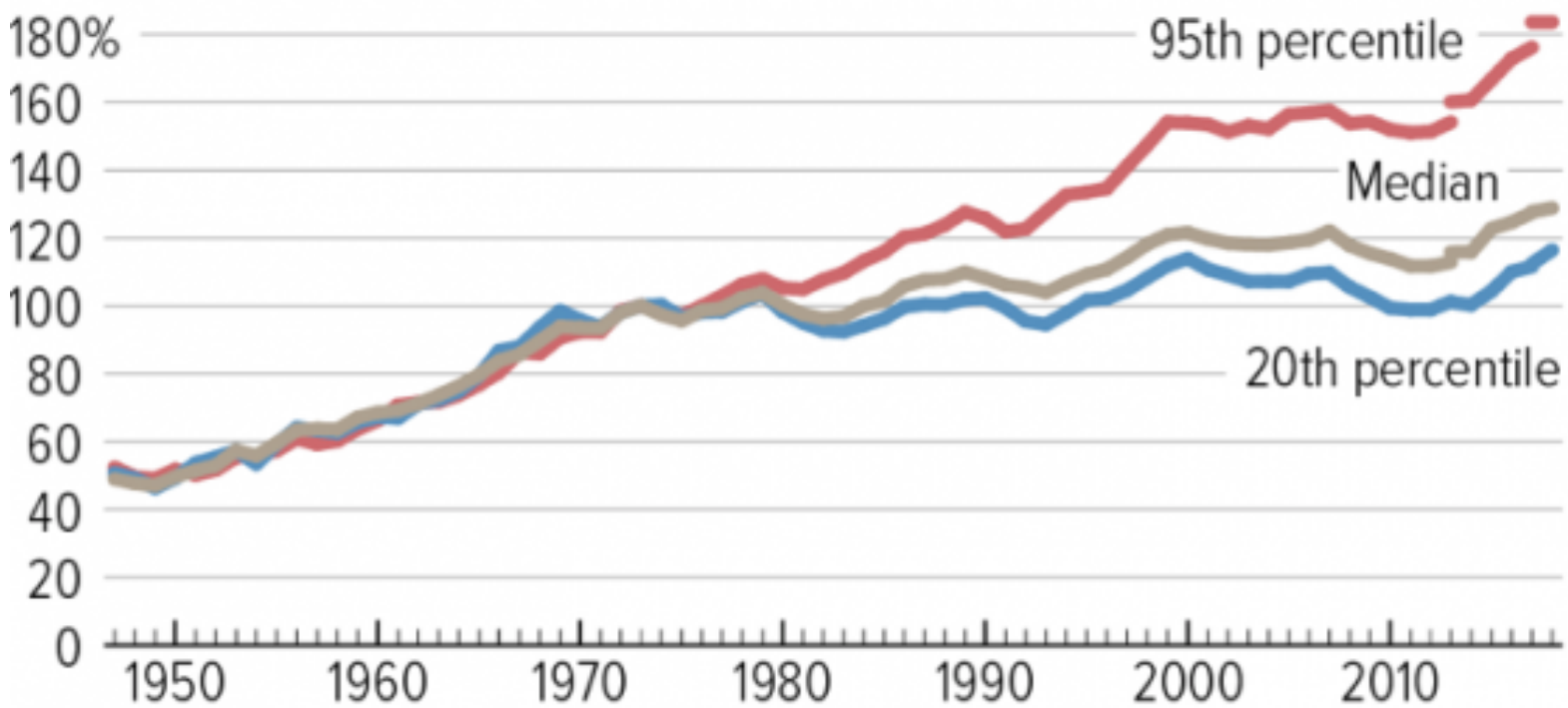- **Beginning in the 1970s, the income gap widened.**

  - Income in the middle and lower parts of the distribution slowed

  - Incomes at the top continued to grow strongly

  - Income shares at the very top of the distribution rose to levels last seen more than 80 years ago

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The Abrupt Increase in Inequality

Real family income between 1947 and 2018, as a percentage of 1973 level

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Source: Chad Stone, Danilo Trisi, Arloc Sherman, and Roderick Taylor, "A Guide to Statistics on Historical Trends in Income Inequality," Center on Budget and Policy Priorities, Policy Futures, Dec. 11, 2018.
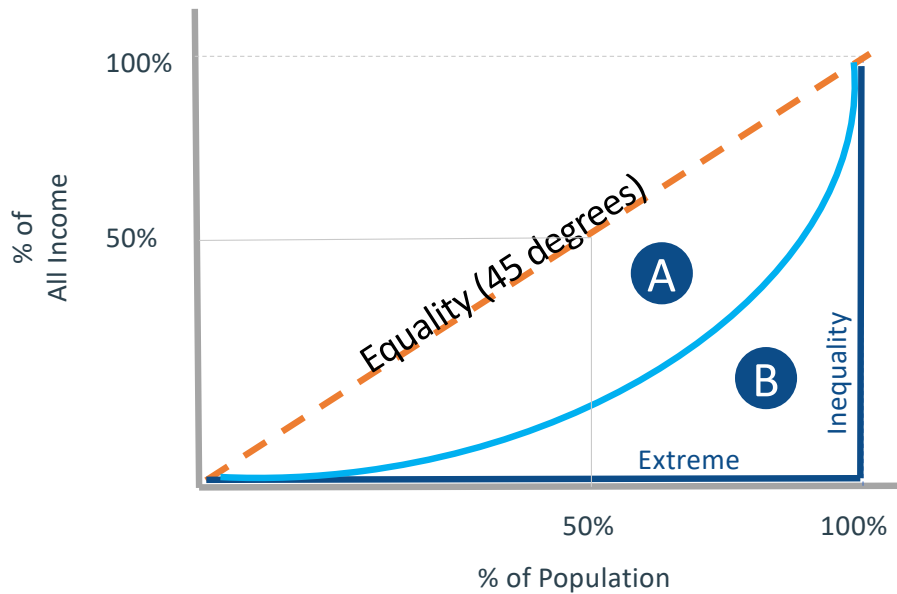
The Gini Coefficient

- **A common way to describe income inequality is by using a Gini coefficient.**

- **Gini coefficient – a numerical measure of the overall dispersion of income**
  - Ranges from 0 – 1
  - 0= perfect equality – everyone has same income
  - 1=perfect inequality – one person makes all income, no one else has any
  - In practice:
    - 0.5 – 0.7 – highly unequal
    - 0.2 – 0.35 – relatively equal
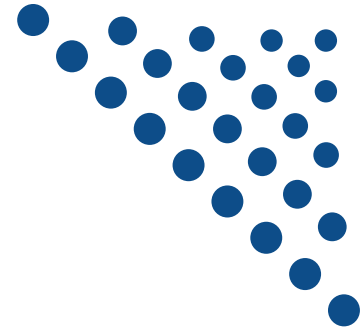
The Gini Coefficient

100%

% of
All Income

Equality (45 degrees)

50%

A

B

Inequality

Extreme

50%   100%

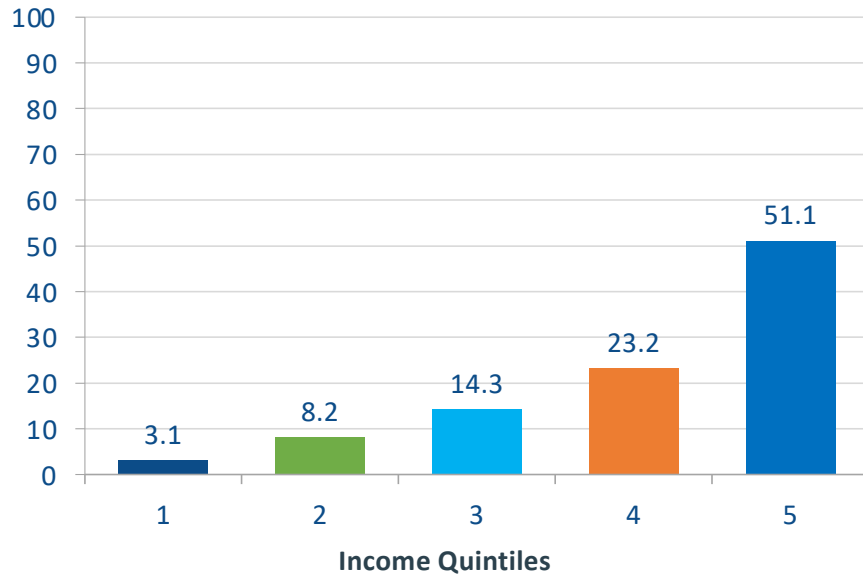% of Population

$$\text{Gini} = \frac{A}{A + B} \times 100$$

Bigger A: More inequality
Smaller A: Less inequality

Forming the GINI Coefficient: 2015
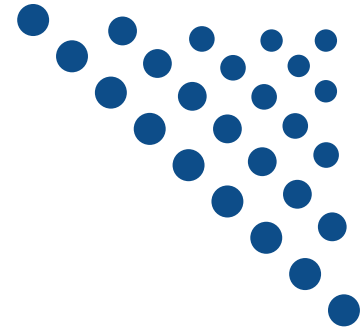
Quintile Shares of Income

CUMULATIVE Quintile Shares of Income

Income Quintiles
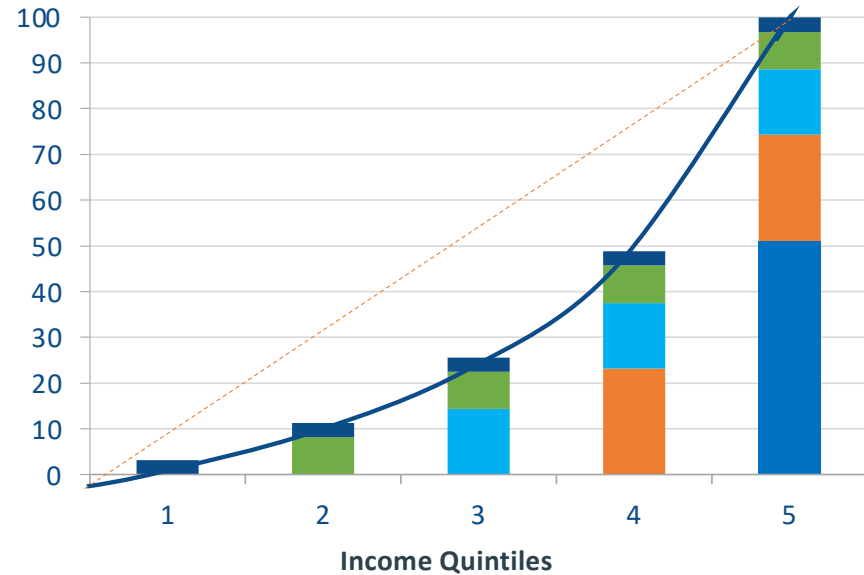
Income Quintiles

Income Share Changes Between 1970 and 2017

Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements.
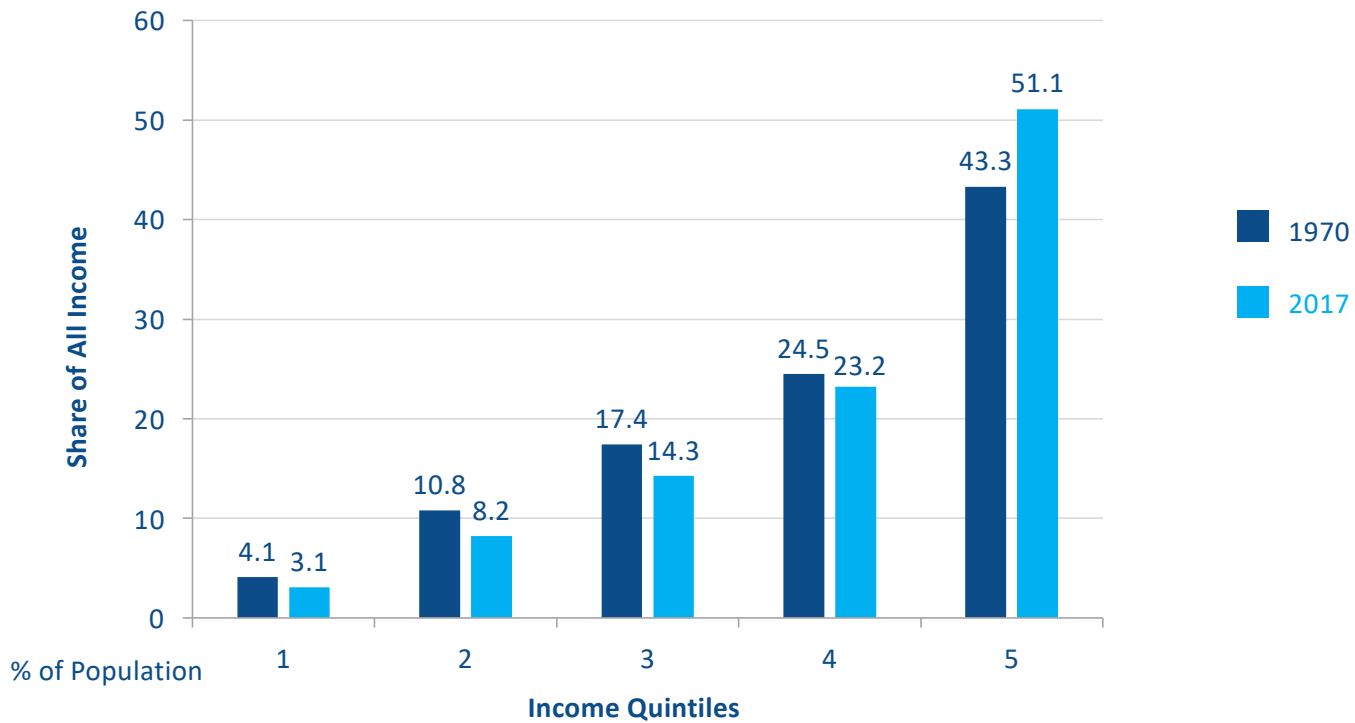
Quintile Income Cutoffs

Quintile Cutoffs

Source: U.S. Census Bureau
Produced by: National Economic Education Delegation (www.NEEDelegation.org)
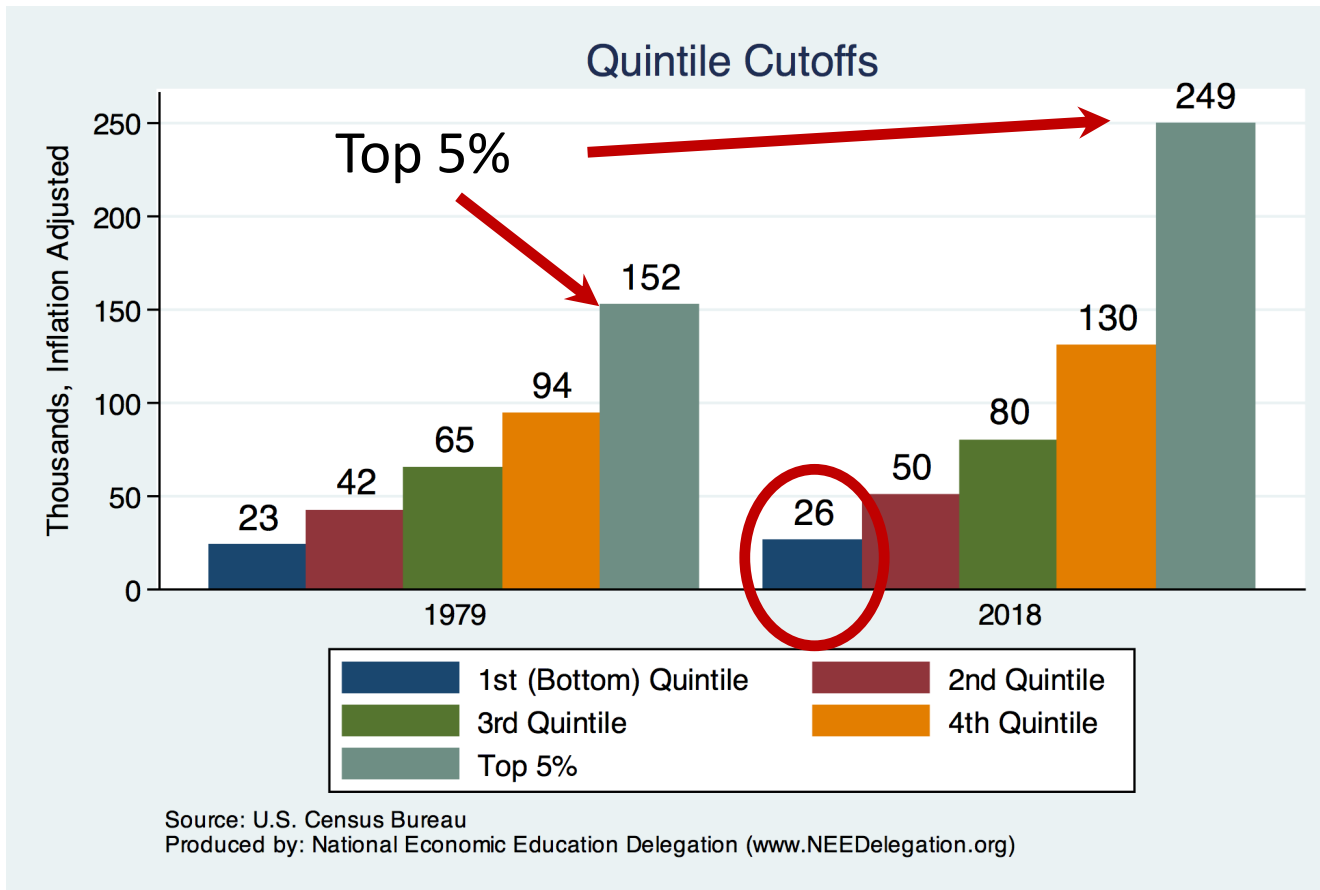
Income Changes from Growing Inequality

Bottom 90% of Households

INCOME GROUP	TOTAL LOSS/GAIN IN ANNUAL INCOME*	AVERAGE LOSS/GAIN PER HOUSEHOLD PER YEAR*
TOP 1%	$673 billion more	$597,241 more
96-99	$140 billion more	$29,895 more
91-95	$29 billion more	$4,912 more
81-90	$43 billion less	$3,733 less
61-80	$194 billion less	$8,598 less
41-60	$224 billion less	$10,100 less
21-40	$189 billion less	$8,582 less
BOTTOM 20%	$136 billion less	$5,623 less
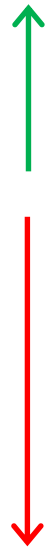
* Compared to what incomes would have been had all income groups seen the same growth rate in 1979-2005 as they did during previous decades.
Source: Jacob Hacker, Yale University; Paul Pierson, UC-Berkeley

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Growth Has Been Primarily at the Very Top

Average Annual Growth of Group Income
1979-2013

	Bottom 20%	Middle 60%	81-99 Percentiles	Top 1%
Before-Tax Income	0.53	0.54	1.84	5.52
After-Tax Income	1.36	1.20	2.05	5.65

Source: Congressional Budget Office
Graph by: National Economic Education Delegation (www.NEEDelegation.org)

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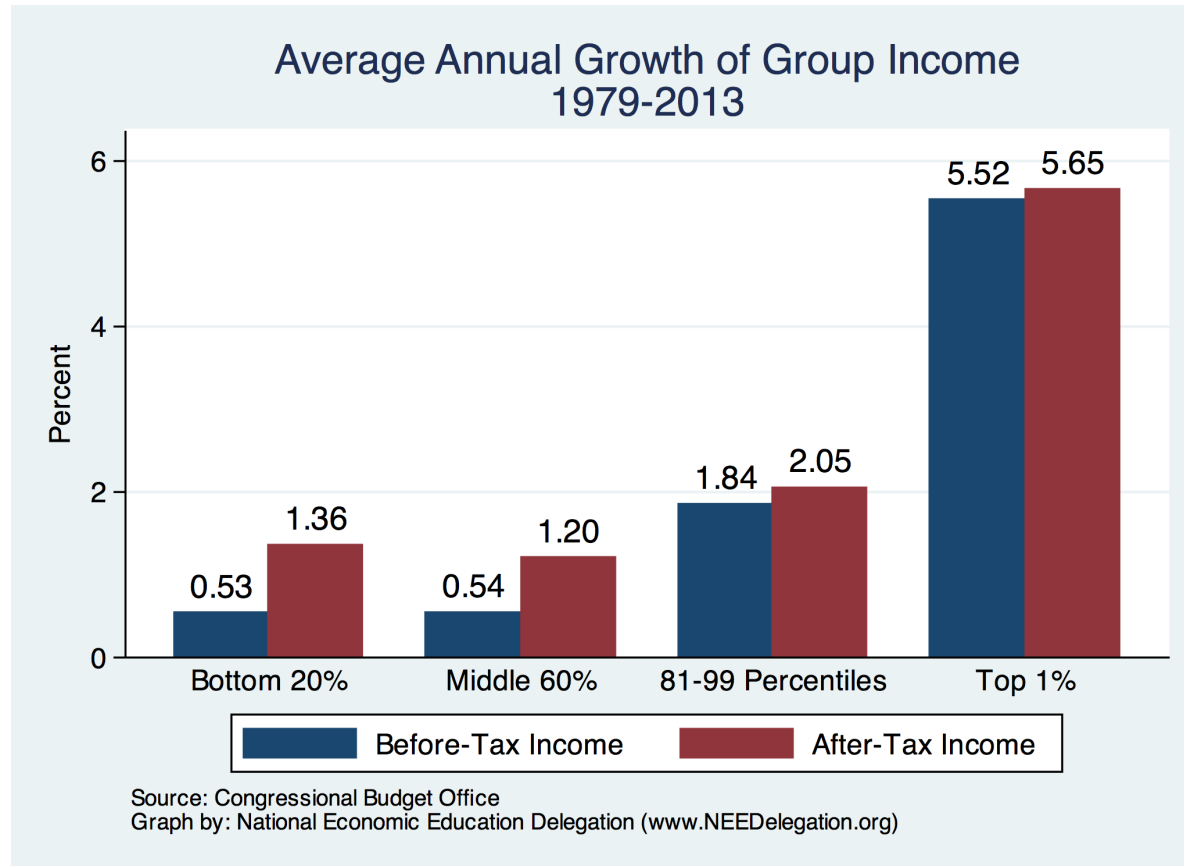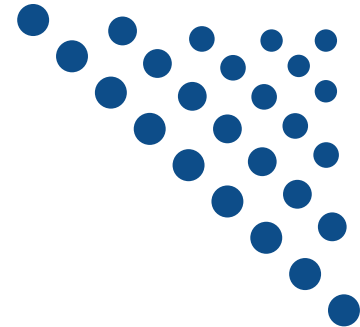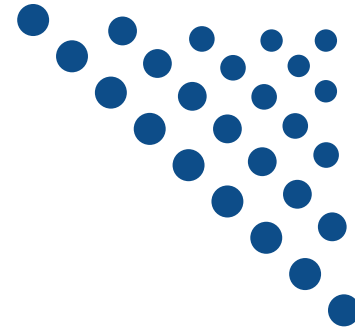
People of Color Are Scarce at Top and Overrepresented at Bottom
U.S. Black and Latino representation, 2018
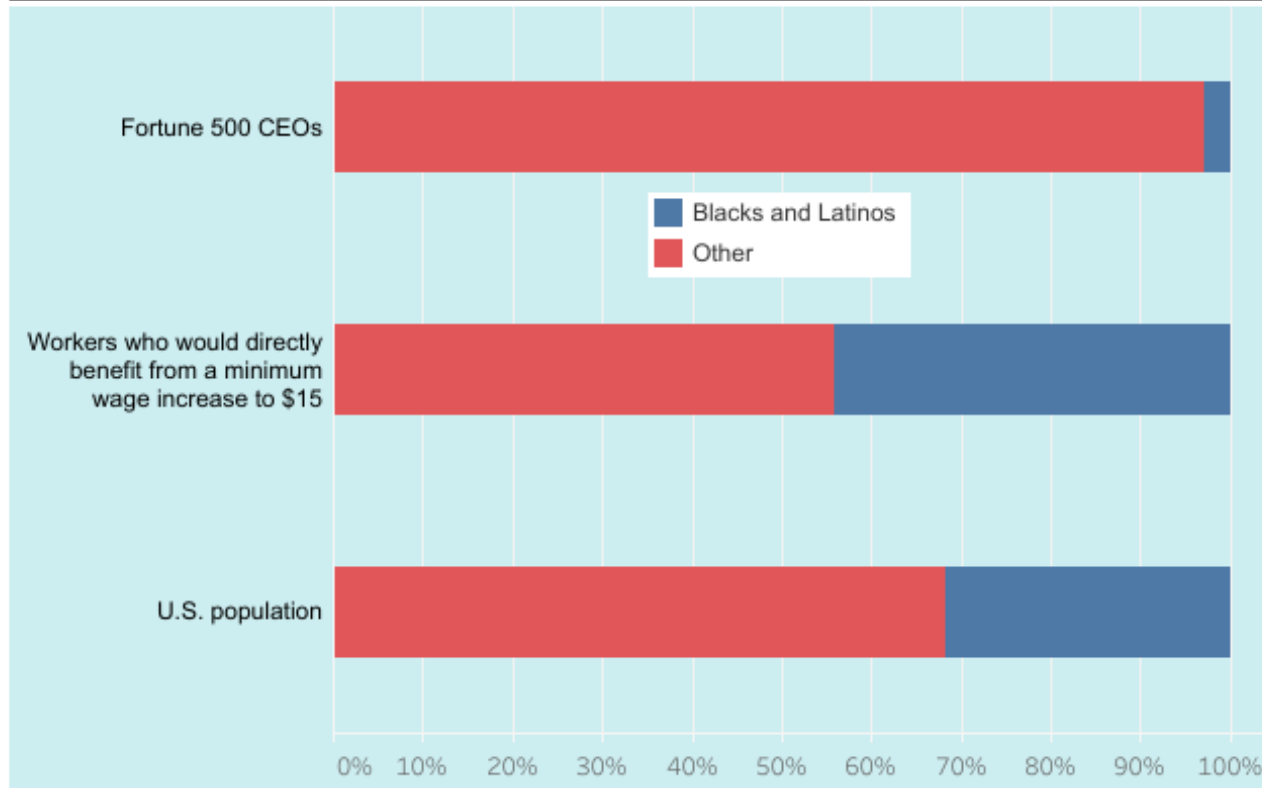
Sources: Census Bureau, Economic Policy Institue, Fortune, Black Enterprise, and Al Día News

https://inequality.org/facts/racial-inequality/#racial-income-inequality

Income Inequality Varies by Location

Gini Coefficients in 2019

- US: 48.1
- SC: 47.5
- Anderson County, SC: 46.8 - (increasing since 2014)
- Pickens County, SC: 43.9 (falling since 2016)

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Income and Wealth Inequality

Year: Through 2019

Income Inequality — Wealth Inequality

Source: U.S. Census Bureau and Board of Governors
INCOME INEQUALITY is measured by the Gini coefficient.
WEALTH INEQUALITY is the ratio of the mean wealth of the top decile to median overall wealth.
Wealth data are only available for 1962, and at three year intervals beginning in 1989.
Graph by: National Economic Education Delegation (www.NEEDelegation.org)

Wealth Inequality Exceeds Income Inequality

Distribution of before-tax income, 2016

- Top 1 percent 24%
- Next 9 percent 27%
- Bottom 90 percent 50%
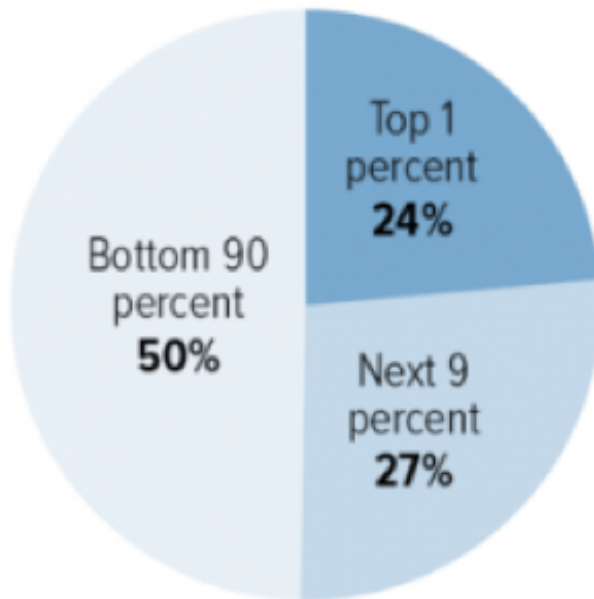
Distribution of wealth, 2016

- Top 1 percent 39%
- Next 9 percent 39%
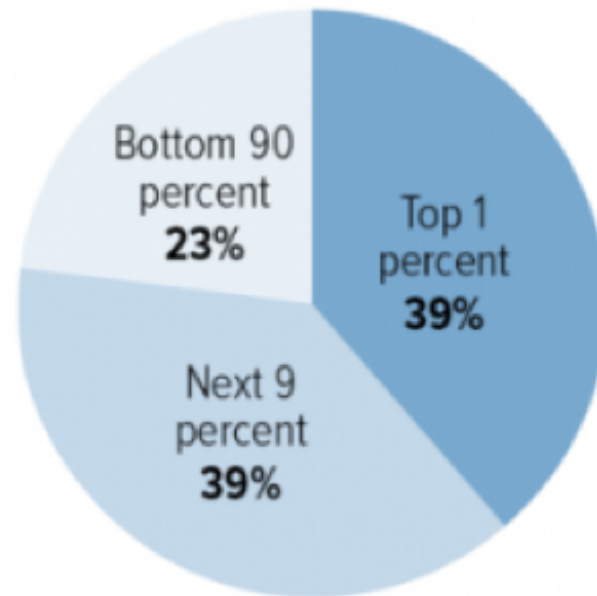- Bottom 90 percent 23%

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FIGURE 3.

Median Net Worth, by Household Income Percentile

Net worth (thousands of 2016 dollars)

1800
1600
1400
1200
1000
800
600
400
200
0

White
Black

Bottom 20 percent | 20–39.9th | 40–59.9th | 60–79.9th | 80–89.9th | Top 10 percent
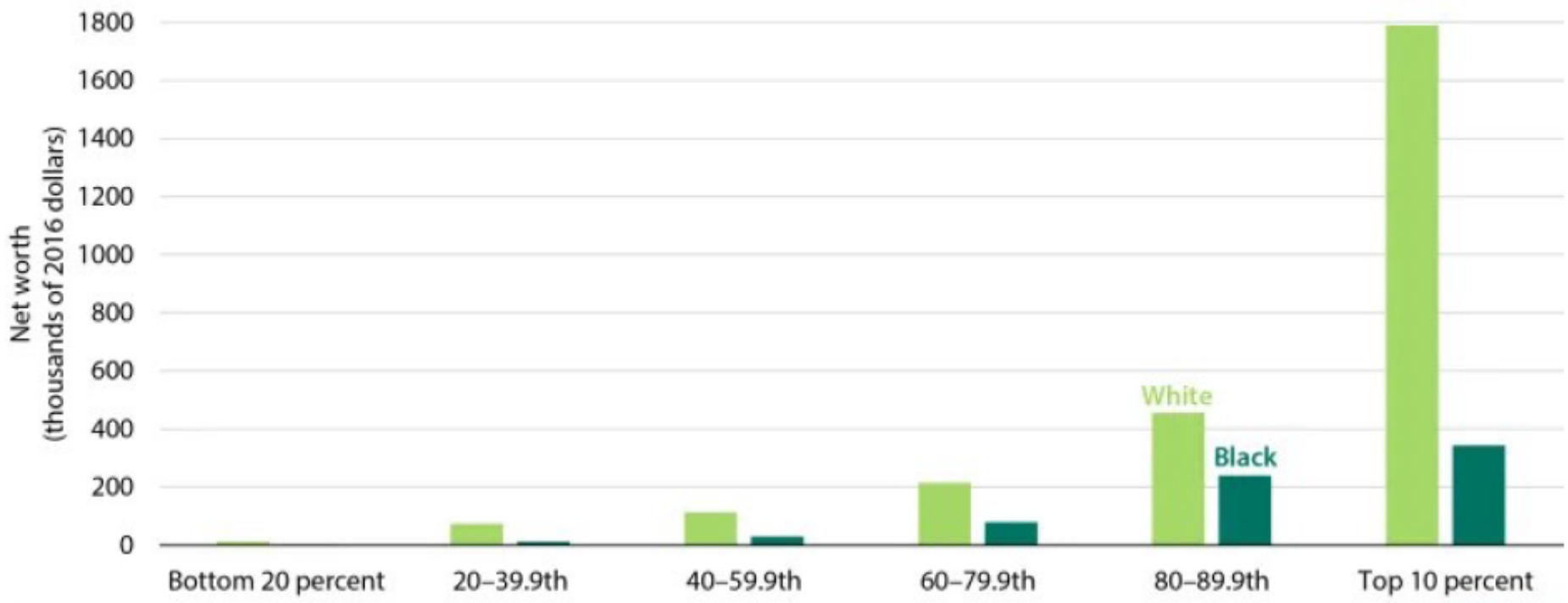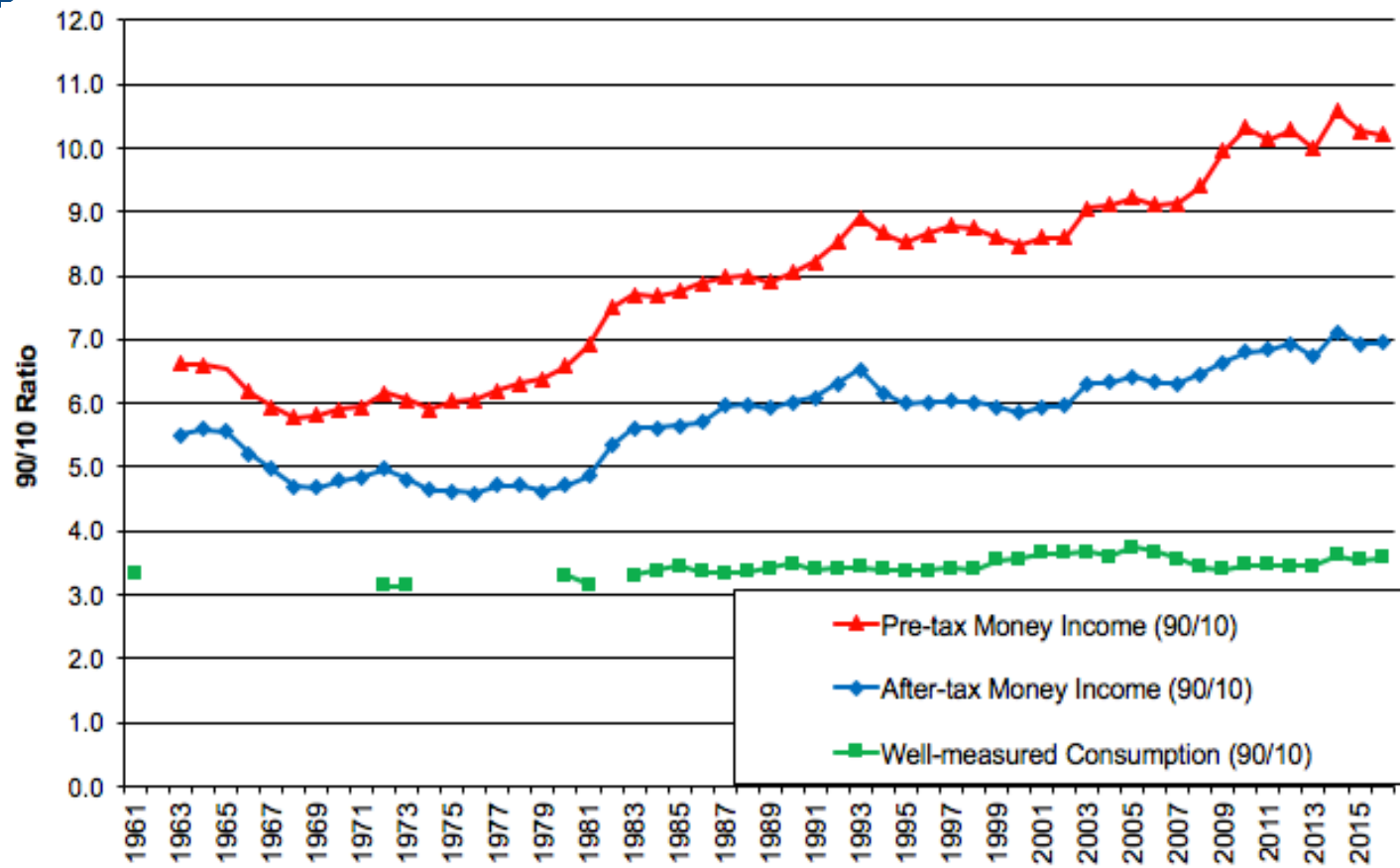
Source: Survey of Consumer Finances 2016; authors' calculations.
Note: Data are from 2016. Net worth refers to the difference between assets and debt for a household head. Race and ethnicity are those of the survey respondent.

THE HAMILTON PROJECT
BROOKINGS

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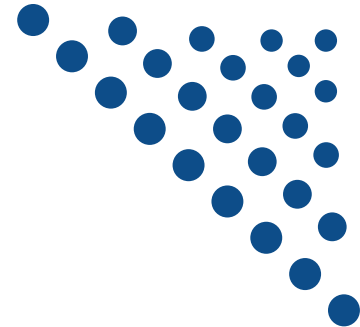
A Third Measure of Inequality: Consumption

Growing Evidence: Consumption Inequality
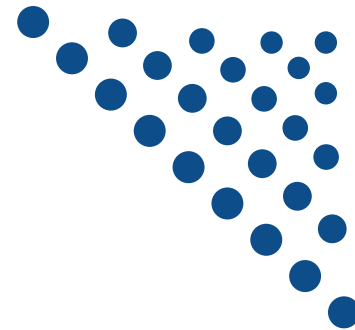
The Evolution of Consumption Inequality over Time as Measured by Different Papers

Legend:
- Aguiar and Bils (2015)
- Attanasio, Battistin, and Ichimura (2007)
- Attanasio and Pistaferri (2014)
- Heathcote, Perri, and Violante (2010)

Y-axis: Variance of log consumption

Source: Orazio P. Attanasio and Luigi Pistaferri, "Consumption Inequality," Journal of Economic Perspectives, Volume 30, #2, Spring 2016, page 11, Figure 1.
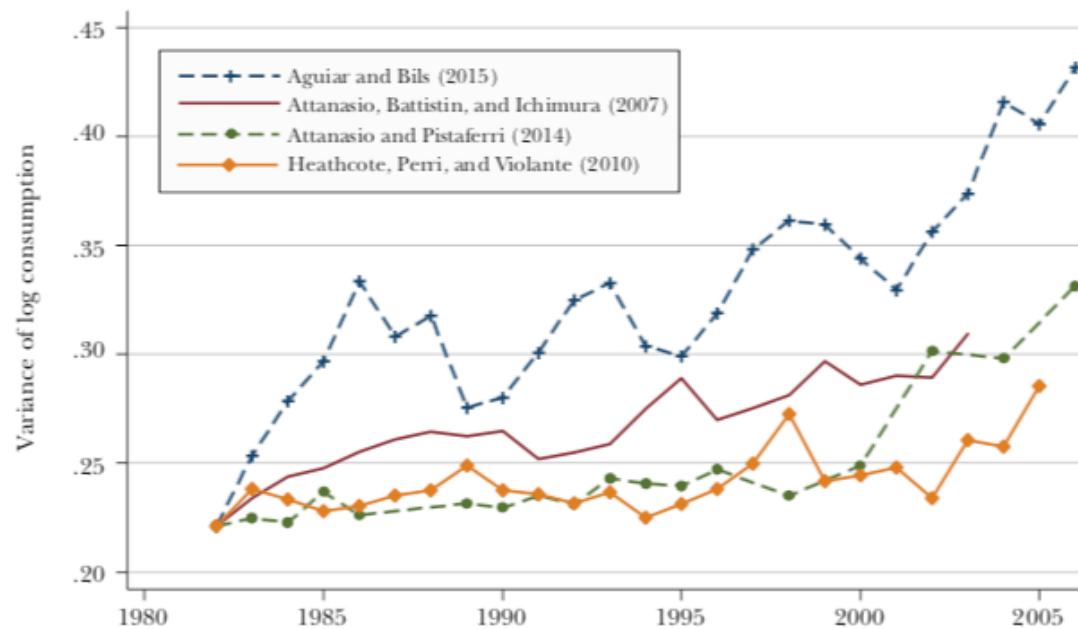
Case Study: Economic Research

- **Early, controversial result is published**
- **Flurry of effort to understand the result**
- **Growing body of evidence**
- **Consensus reached**
  - Not always
  - Sometimes data continue to conflict
  - Often merely a preponderance of evidence drives understanding
- **Why has this happened with consumption inequality?**
  - Inadequacy of data and methods

Where Does Inequality Come From?
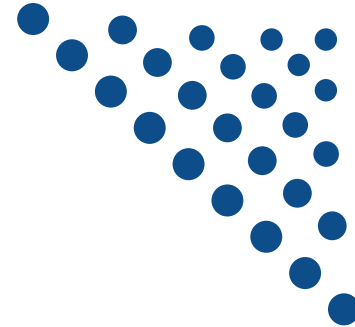
- **Labor Characteristics**
  - Demographics
    - o Age distribution
  - Personal Choices
    - o Educational attainment
    - o Effort
    - o Priorities
    - o Household composition
  - Immigration

- **Market Forces**
  - Technology
  - Changing demand patterns
  - Competition for labor

- **Government Policy**
  - Market influence
  - Redistribution

Government Policy and Inequality
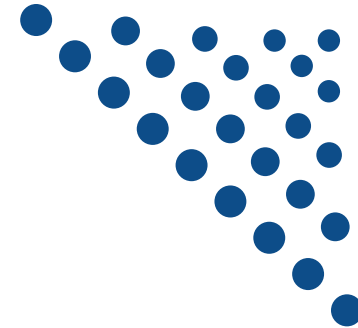
- **Market Influence: PRE-distribution**
  - Characteristics of labor
    - o Access to education
  - Effects on labor demand
    - o Market regulation
      - Competition policy
    - o Labor regulations
      - Minimum wage, overtime, health insurance, etc.

- **RE-distribution**
  - Tax Rates
  - Income support
    - o Direct aid
    - o Food stamps

Tax and Transfer Programs and Inequality

Thousands of Dollars

2014

Chart showing Income Before Transfers and Taxes (green) and Income After Transfers and Taxes (purple) by quintile. Y-axis ranges from 0 to 300. Categories: Lowest Quintile, Second Quintile, Middle Quintile, Fourth Quintile, Highest Quintile.

Source: U.S. Congressional Budget Office, "The Distribution of Household Income, 2014", Average Income Before and After Means-Tested Transfers and Federal Taxes, by Income Group, 2014.

Taxes, Transfers, and Income: 2016

Income Before Transfers and Taxes *plus* Means-Tested Transfers *minus* Federal Taxes *equals* Income After Transfers and Taxes

Thousands of Dollars

Lowest Quintile — Highest Quintile

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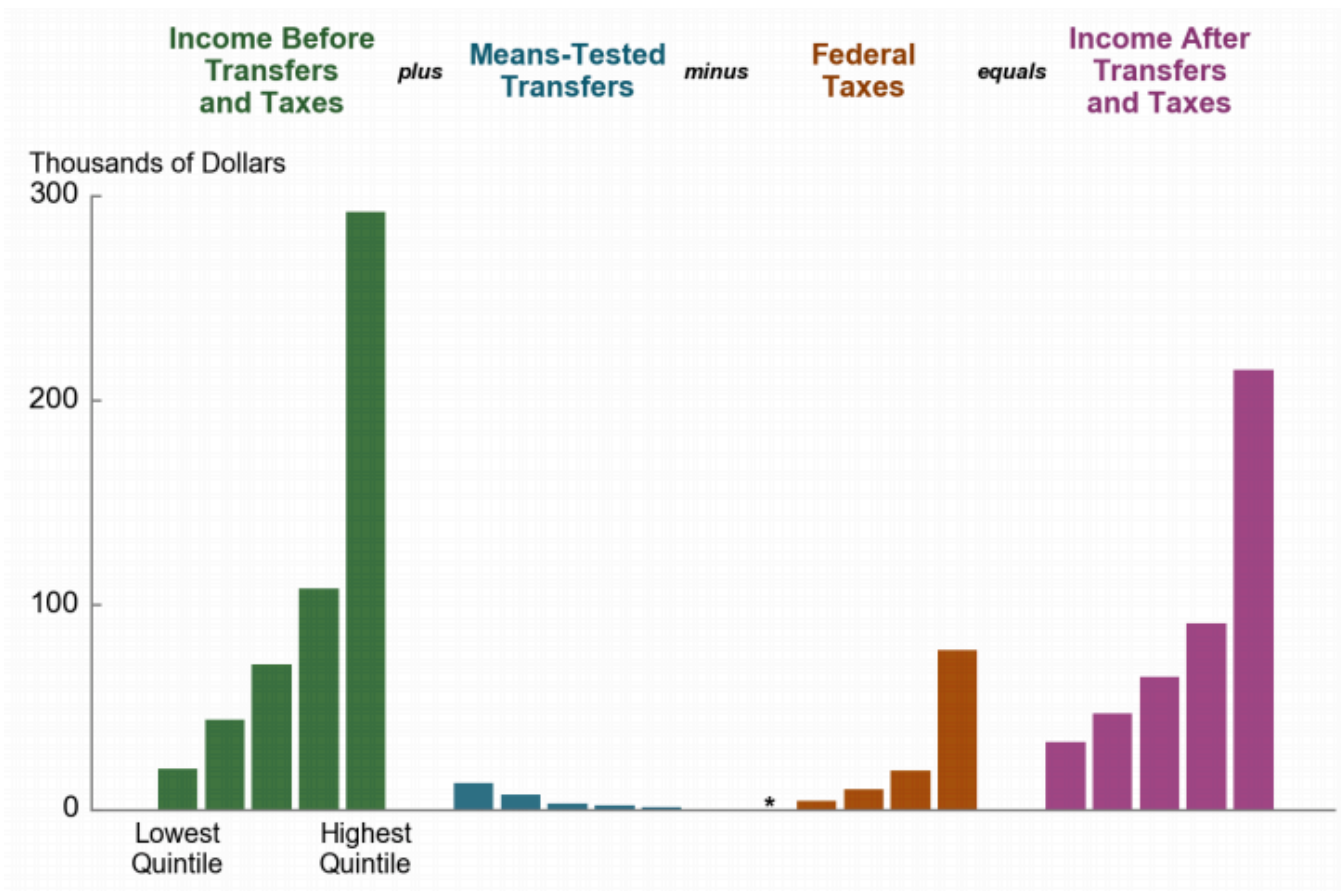
Tax and Transfer Programs: Income Shares

Distribution of income before federal transfers and taxes, 2016

Top 1 percent
16%

Bottom 20 percent
4%

Top 81-99 percent
39%

Middle 60 percent
43%

Distribution of income after federal transfers and taxes, 2016

Top 1 percent
13%

Bottom 20 percent
8%

Top 81-99 percent
35%

Middle 60 percent
46%
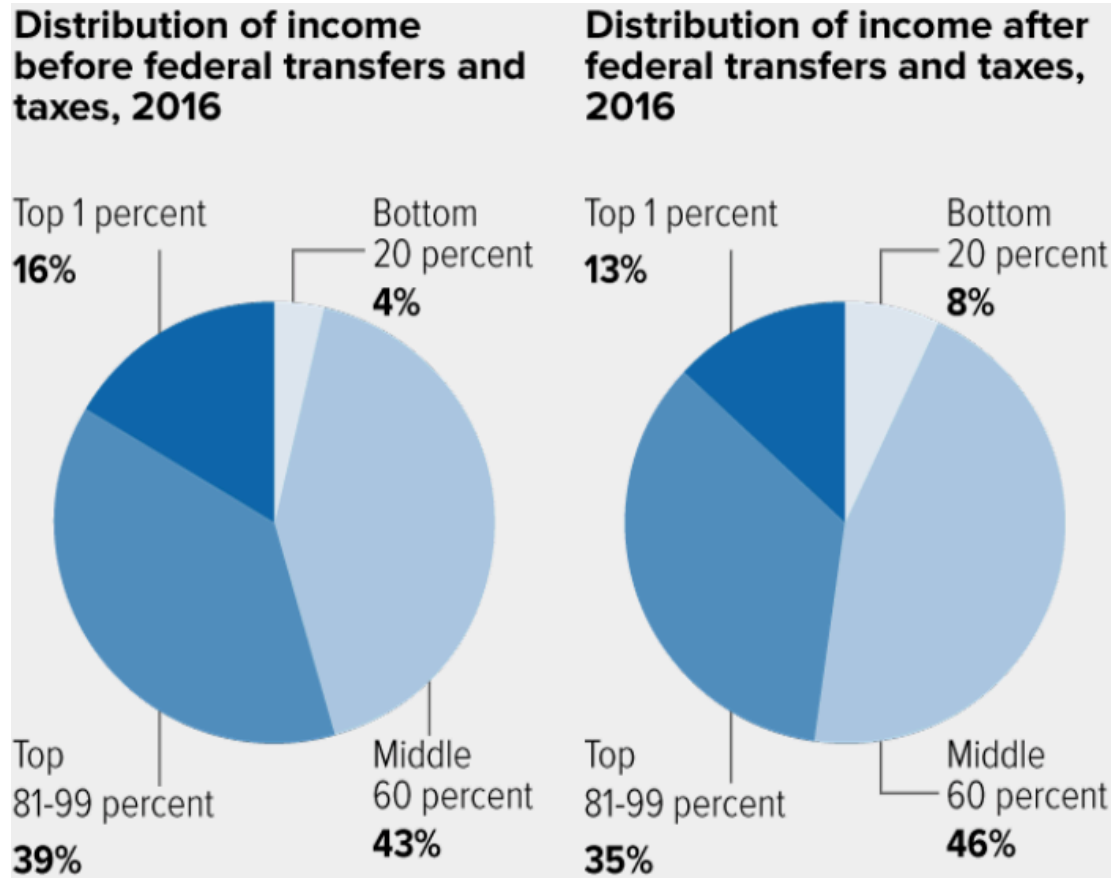
What About Tax Rates?
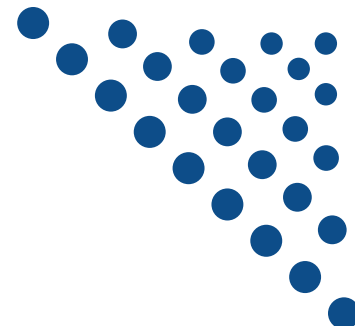
400 TAXPAYERS WITH HIGHEST INCOMES

1992-2014

+310%

Average income

Average tax rate

-12%

The Top Tax Rate and Income Cutoff

Year: Through 2021

Top Income Tax Rate
Inflation Adjusted Income Cutoff for Top Bracket

Produced by: National Economic Education Delegation (www.NEEDelegation.org)
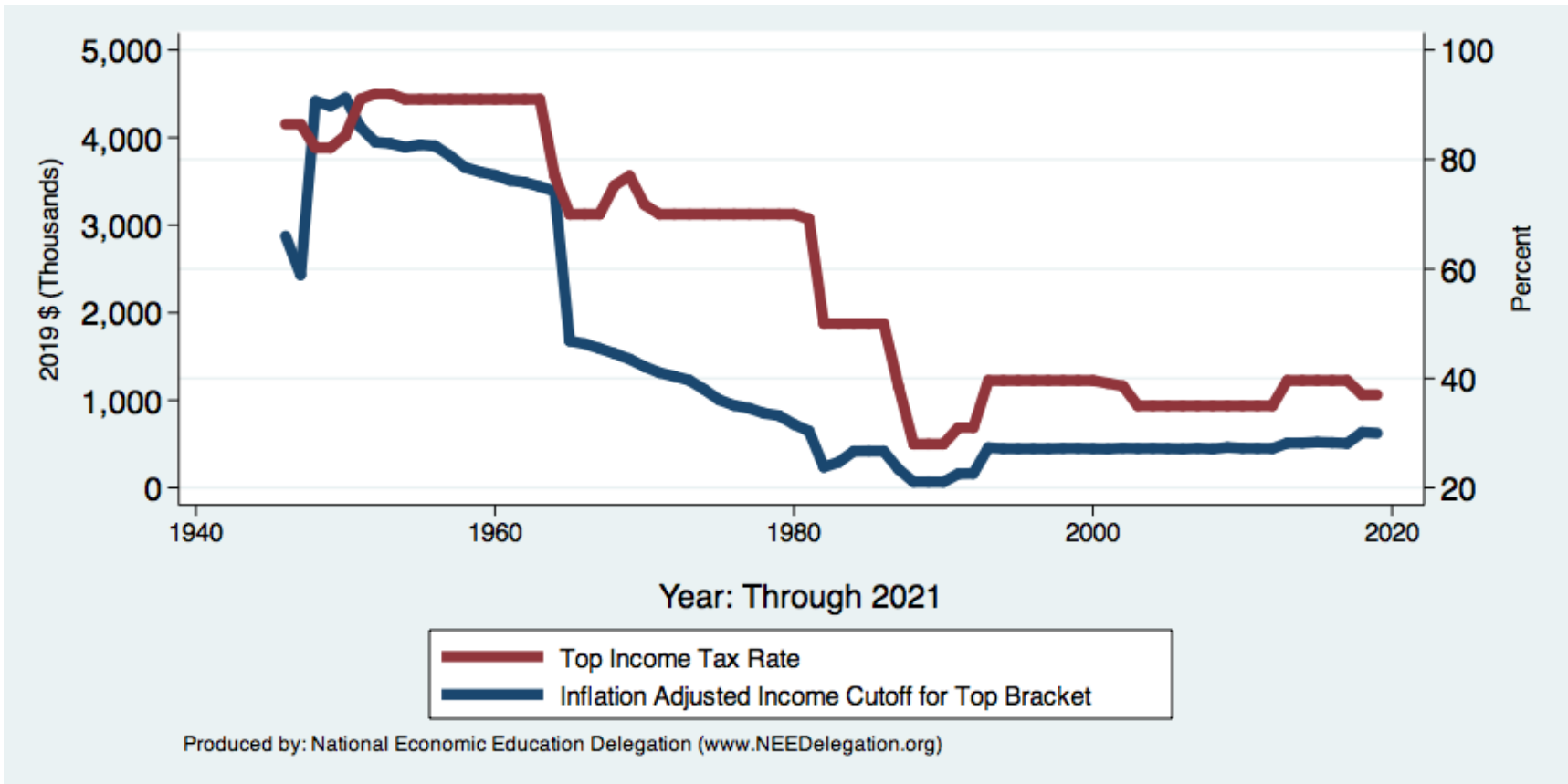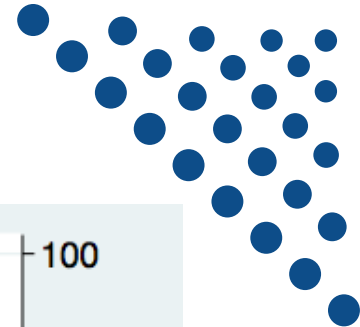
Market Forces and Inequality
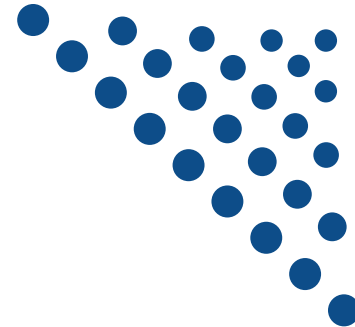
- **Changing demand patterns**
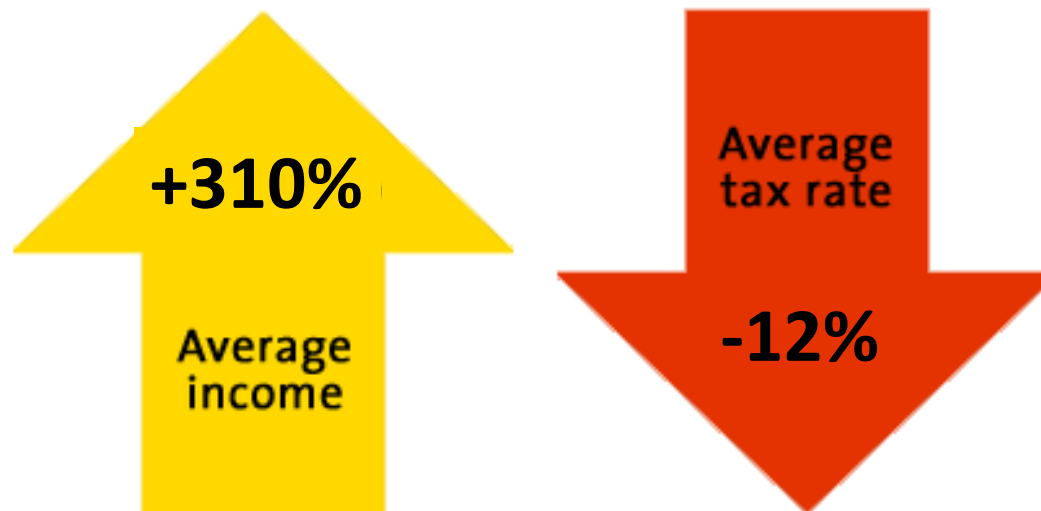 - Technology
  - Globalization
  - Industry composition
    - PCs instead of typewriters
    - Services instead of goods
    - Professional services instead of personal services

- **Competition in labor markets**
  - Unionization
  - Market concentration

Where Does Inequality Come From? Summary

- **Labor characteristics**
  - What do workers bring to the market?

- **Market forces**
  - How does the market value the labor characteristics?

- **Government policies**
  - PRE-distribution – affecting markets
  - Redistribution – affecting incomes

Labor Income is Unhinged from Productivity

Index, 1982-Q1 == 100

215.7
154.5

Jan-50 Jan-60 Jan-70 Jan-80 Jan-90 Jan-00 Jan-10 Jan-20 Jan-30

Quarterly: Through Q3-20

Labor Productivity   Compensation
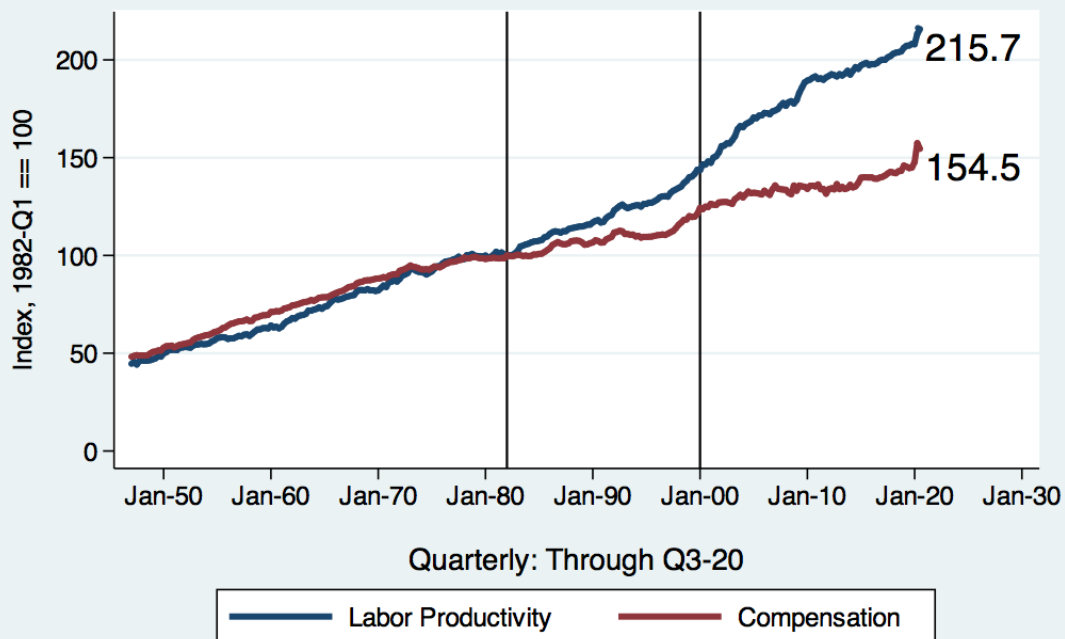
Source: U.S. Bureau of Labor Statistics
Productivity: Nonfarm Business Sector: Real Output Per Hour of All Persons
Compensation: Nonfarm Business Sector: Real Compensation Per Hour
Graph by: National Economic Education Delegation (www.NEEDelegation.org)

Why?

- Declining unionization
- Globalization
- Immigration
- Competition policy
- Cheap technology

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Labor Share Gap Acceleration

Quarterly, Through Q3-20

Gap between Productivity and Compensation Growth
Trend: Q1/78 - Q4/99
Trend: Q1/00 - Q4/19

Declining Unionization

Year: Through 2018

Legend: Top 1% Income Share — Union Membership
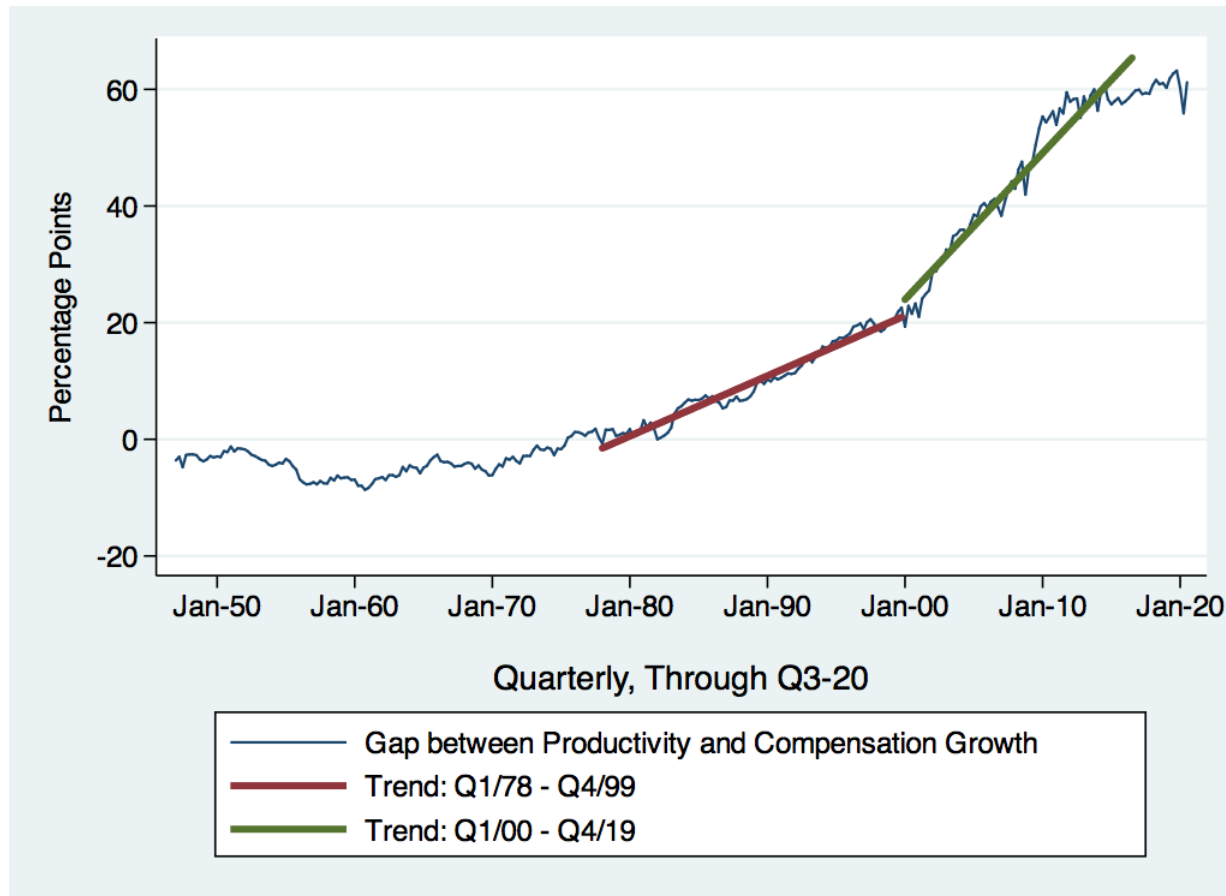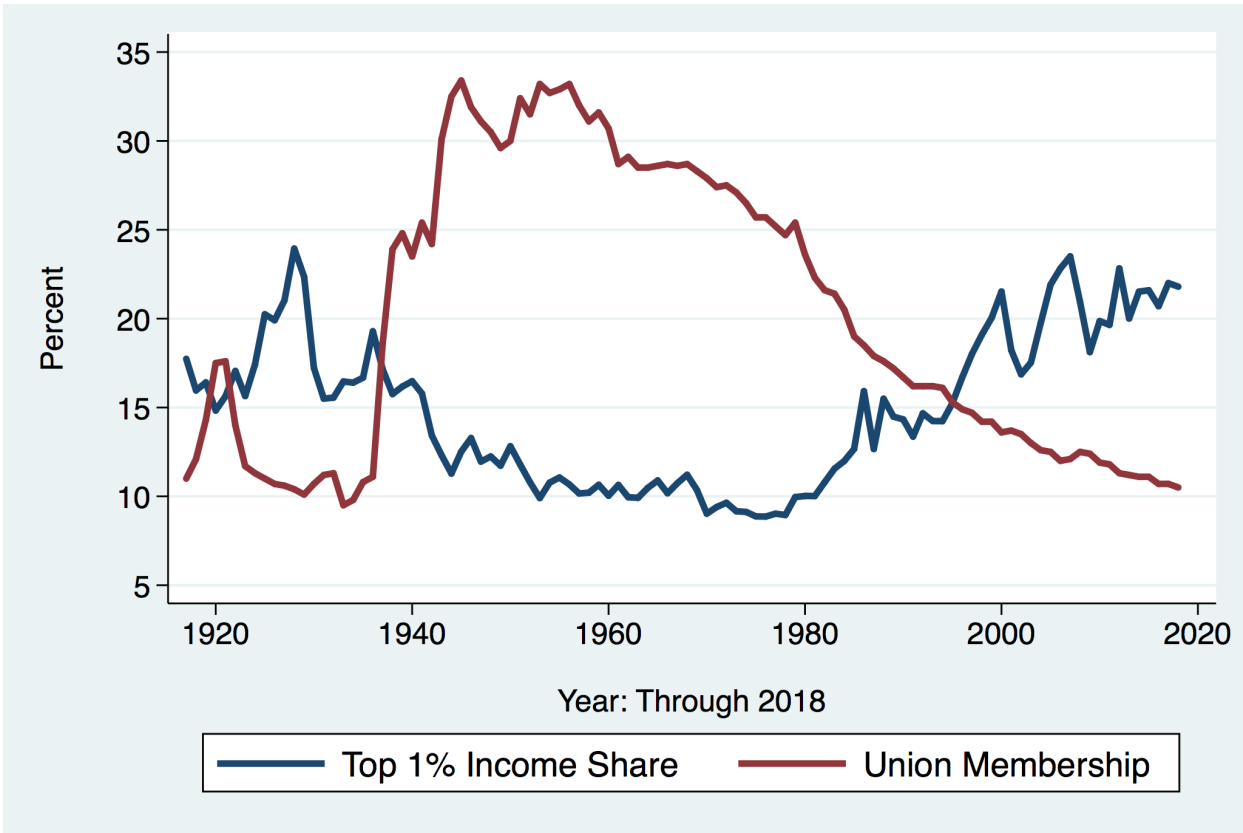
Unionization Rates

- **1983:** 20.1%
- **2018:** 10.5%

Unionization Rates

- **Public:** 33.9%
- **Private:** 6.4%

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Competition in the Economy

Return on invested capital excluding goodwill – US publicly-traded nonfinancial firms, 1965-2014

Source: Jason Furman, "Forms and sources of inequality in the United States", VOX, March 17, 2016, Figure 6.

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CEO Pay Has Been Growing Rapidly

CEO-to-Worker Compensation Ratio

Source: EPI, CEO compensation based on options realized.
Ratio is CEO compensation relative to average worker compensation.
Graph by: National Economic Education Delegation (www.NEEDelegation.org)

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CEO Pay Has Been Growing Rapidly

CEO-to-Worker Compensation Ratio

	366
	372
	320

Country	Ratio
United States	354
Switzerland	148
Germany	147
Spain	127
Czech Republic	110

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Immigration and Inequality

Source: Ping Xu, James C. Garand, and Ling Zhu, "How immigration makes income inequality worse in the U.S.", October, 2015, Figure 1.

Immigration and Inequality- Summary

- **Beginning in about 1970, the immigrant share of the U.S. Population increased dramatically.**
  - 5% in 1970 and 14% in 2016
- **Immigration tends to happen most often among:**
  - Low-skilled low-wage workers
  - High-skilled high-wage workers
- **Immigration has likely increased income inequality.**
- **Its effect has likely been small.**
  - ~5% between 1980 and 2000
  - No reason to think it has been bigger since

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Technological Change and Inequality

- **Much of the technology adopted in the last 30 years has eliminated low-skill or low-wage jobs.**
    - Computers, advanced manufacturing equipment, steel mini-mills, automation

- **There is a "winner take all" aspect of the technology-driven economy.**
    - This likely favors a small group of individuals.

- **Both aspects increase inequality by increasing the rewards to:**
    - Those with significant labor market skills.
    - Owners over workers

Technology Benefits Ownership over Labor

Productivity and employment in the United States: 1947-2012

Source: BLS (Private employment, non-farm business productivity)
Replication of Brynjolfsson and McAffee, NYT 11 Dec 2012
Roger Pielke Jr., 18 Dec 2012
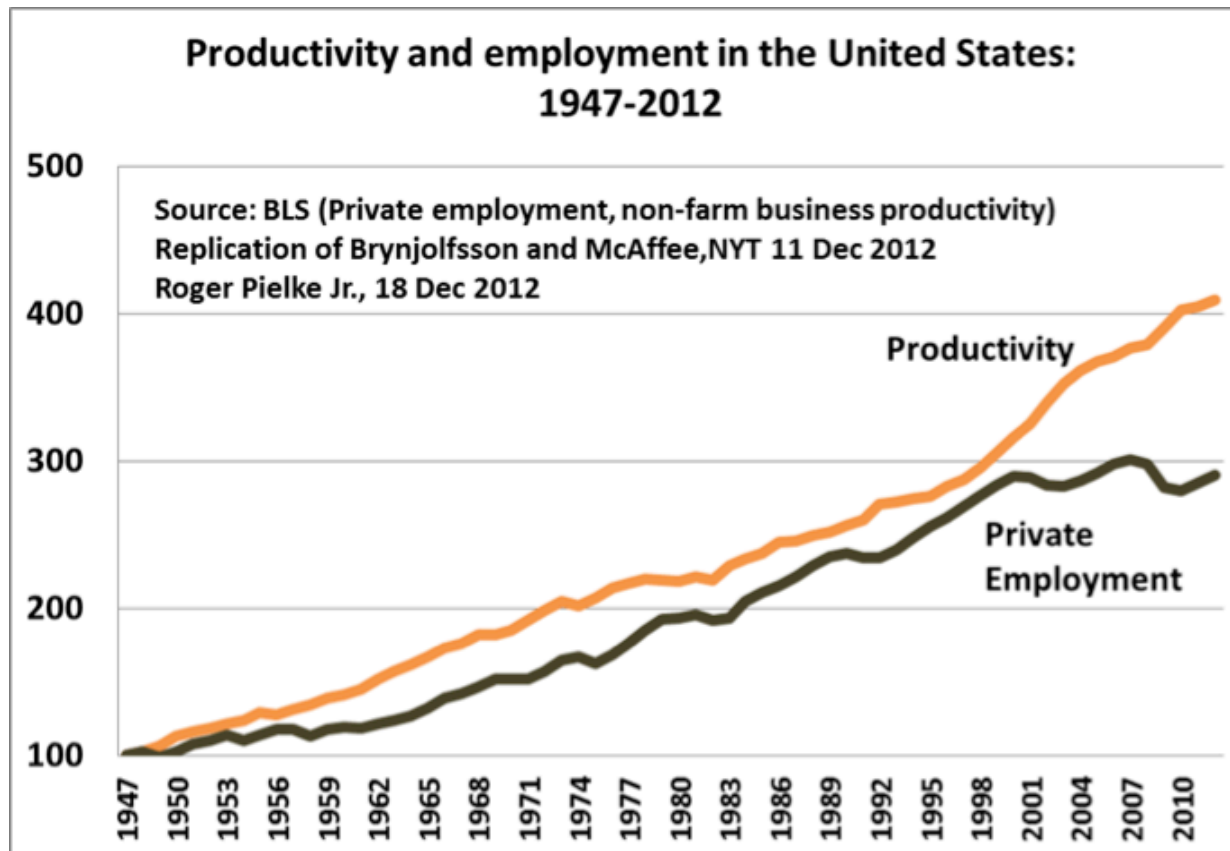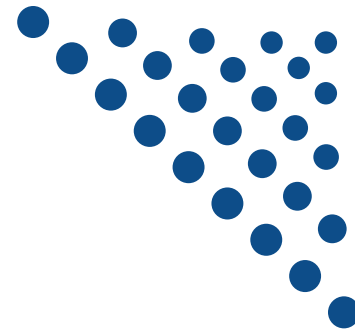
Technology can Hurt Low Income Workers
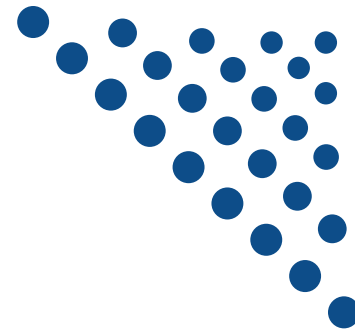
Early on, technology was good to low income workers

Until it was bad for them....

A **Modern Example: Uber & Lyft**

- **Technology:**
  - Facilitates market power for owners.
  - Reduces bargaining power for labor.
  - Shifts costs of doing business onto labor.
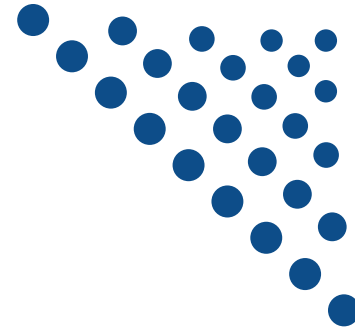
- **Modern day Robber Barons?**
  - Ruthlessly absorbing as much income as they can.
  - Lack of regard for labor.

Globalization
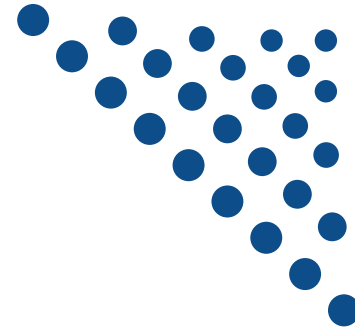
- **What is globalization?**
  - Flow of goods, services, capital, and labor across international borders

- **How does it affect inequality?**
  - Through a differential impact on low-skilled workers and hence their wages

  - For the United States, globalization is thought to lower the wages of low skilled and hence low-wage workers relative to those of high-skilled workers

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Mechanisms for the Effects of Globalization

- **Merchandise trade**
  - Importing goods that are made with low-skilled workers and exporting goods that are made with high-skilled workers
    - Lowers the wages of unskilled relative to skilled
      - making the distribution of income **less equal**

- **Outsourcing**
  - Similar channel as with merchandise trade

- **Trade in services**
  - US imports of middle-skill services: business and some professional services

- **Intuitively: The same as if we were to move the actual workers.**
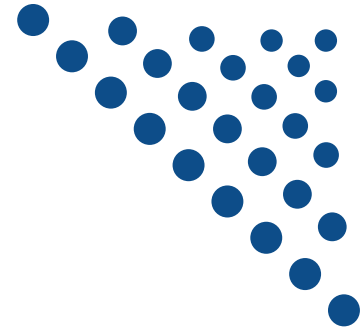
Effects of the Unhinging?
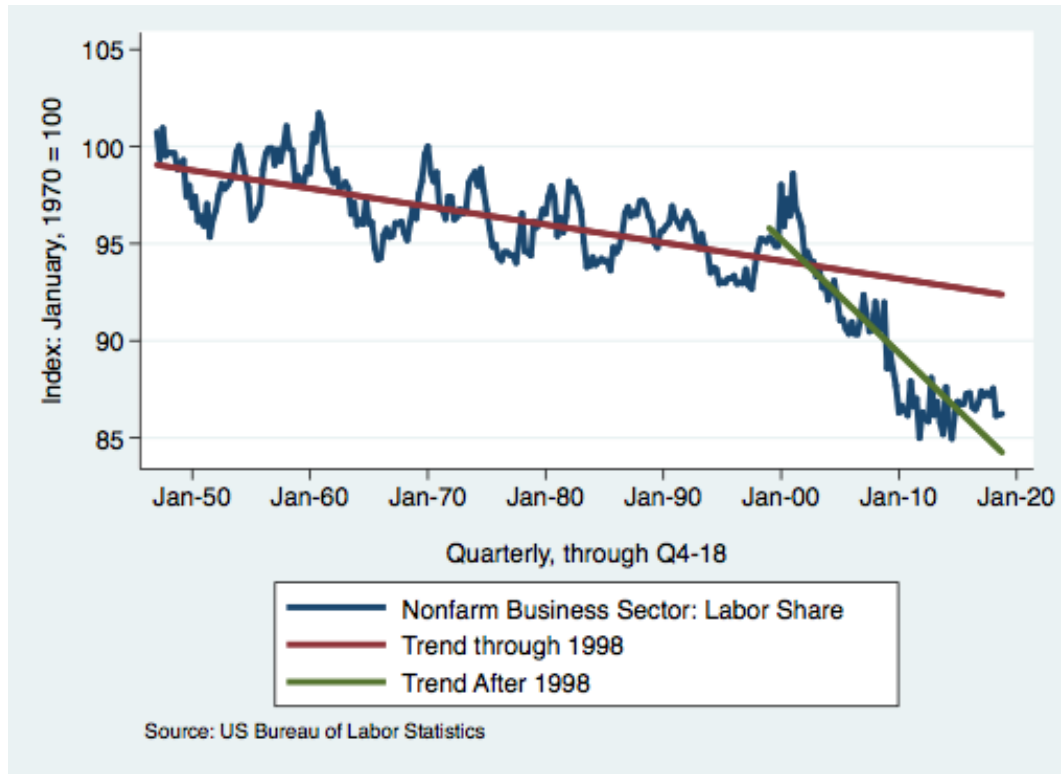
Labor's Share of Income

1960: 66%

2011: 56%

2016: 58%

Source: Bureau of Labor Statistics

Why Does Inequality Matter?
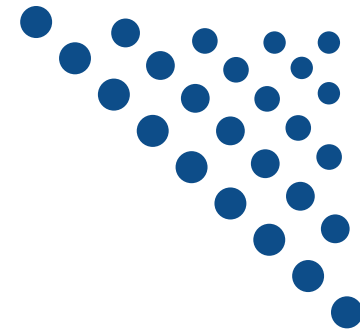
- **Too little inequality can:**
  - Reduce individual motivation
  - Slow economic growth

- **Too much inequality can:**
  - Reduce individual motivation
  - Slow economic growth

- **Too much inequality may also:**

  - Divide society
  - Distort political environment
  - Reduce political participation

  - Reduce investments in public goods
    - Education
    - Environmental protections
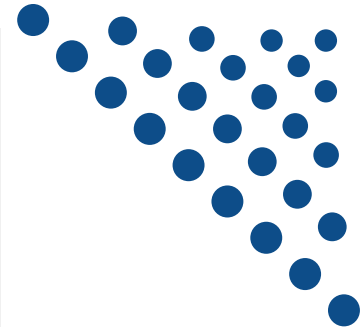
The Great Gatsby Curve: high inequality tends to mean low mobility

More inequality is associated with less mobility across generations
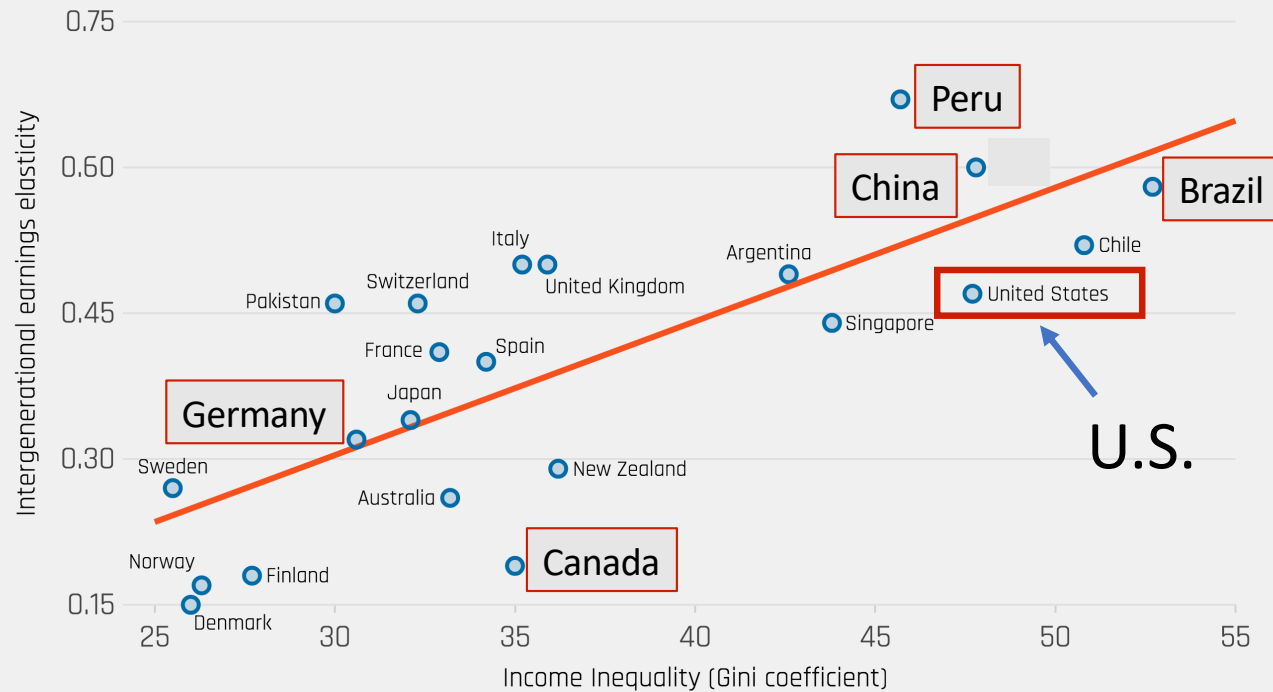
Source: Miles Corak, "Income Inequality, Equality of Opportunity, and Intergenerational Mobility," Journal of Economic Perspectives 27 (3): 79-102; "All the Ginis," available at http://www.worldbank.org/en/research/brief/all-the-ginis (last accessed 9/28/2018)

Equitable Growth

https://equitablegrowth.org/research-paper/are-todays-inequalities-limiting-tomorrows-opportunities

A pattern of unequal growth has made it more common for children to earn less than their parents

Research shows that a child born in 1950 in the United States has about an 80% chance of having higher household income than their parents at age 30. A child born in 1980 has just a 50% chance.

Growth was shared equitably in these years (poorest to richest)

1 **1950**
A child born in 1950 in a household with median income of $29k was likely to out earn their parents...

$29k

2 **1980**
...even if their household at age 30 had below median income.

> $85k
Top 20%

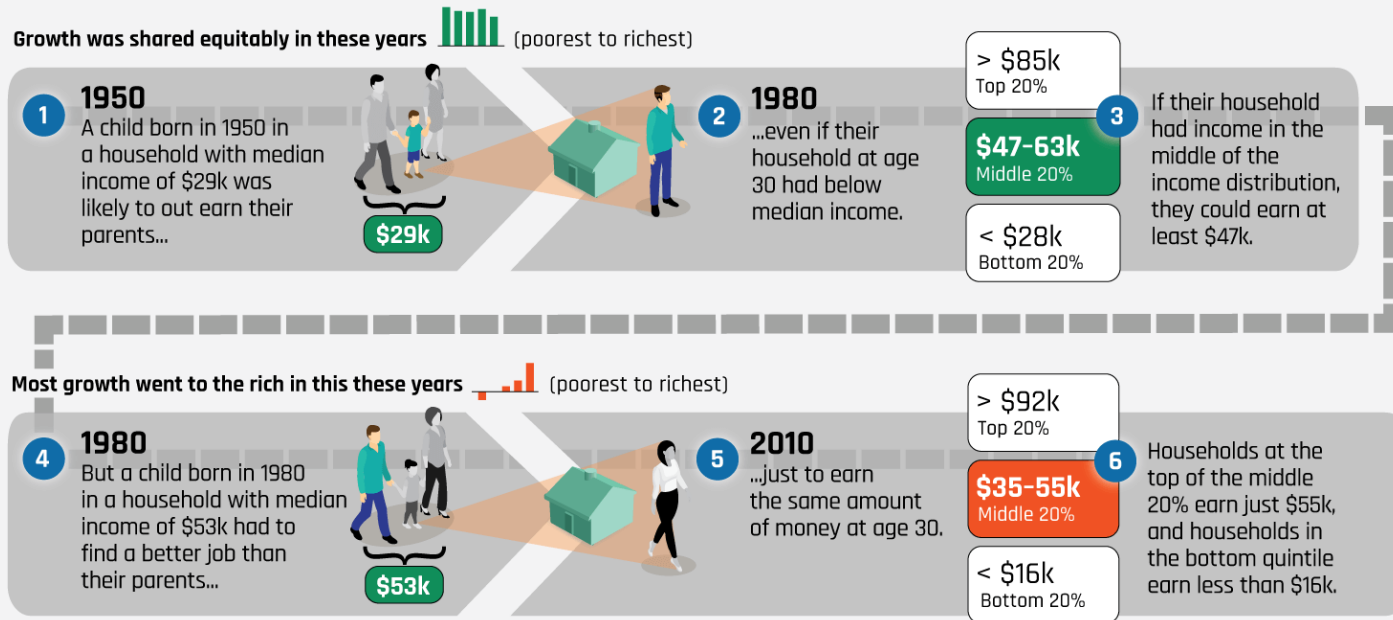**$47-63k**
Middle 20%

< $28k
Bottom 20%

3 If their household had income in the middle of the income distribution, they could earn at least $47k.

Most growth went to the rich in this these years (poorest to richest)

4 **1980**
But a child born in 1980 in a household with median income of $53k had to find a better job than their parents...

$53k

5 **2010**
...just to earn the same amount of money at age 30.

> $92k
Top 20%

$35-55k
Middle 20%

< $16k
Bottom 20%

6 Households at the top of the middle 20% earn just $55k, and households in the bottom quintile earn less than $16k.
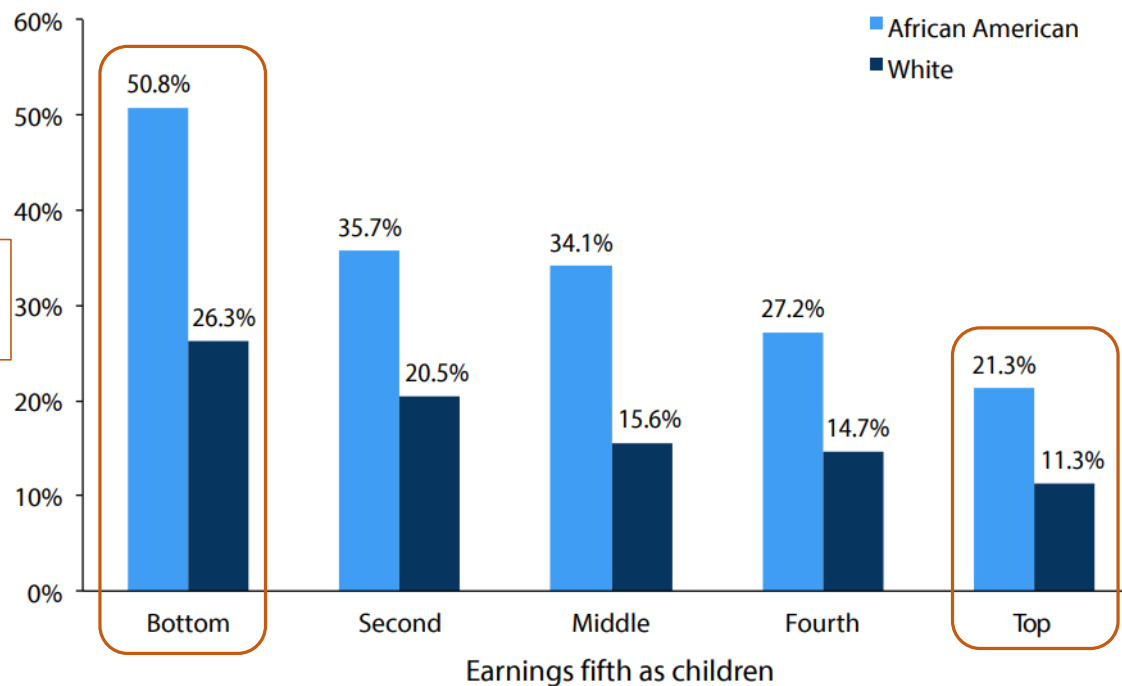
Notes: Incomes shown are for households. Growth as shown in the bar charts is National Income Growth from Thomas Piketty, Emmanuel Saez, and Gabriel Zucman's Distributional National Accounts dataset. Growth in the first period is 1962-1980 because by quintile growth does not extend back to 1950.
Source: Chetty, Raj, and others. 2017. "The Fading American Dream: Trends in Absolute Income Mobility since 1940." Science 356 (6336): 398-406. Thomas Piketty, Emmanuel Saez, and Gabriel Zucman, "Distributional National Accounts: Methods and Estimates for the United States," The Quarterly Journal of Economics 133, no. 2 (May 1, w018): 553-609

Equitable Growth

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U.S. – Racial Differences

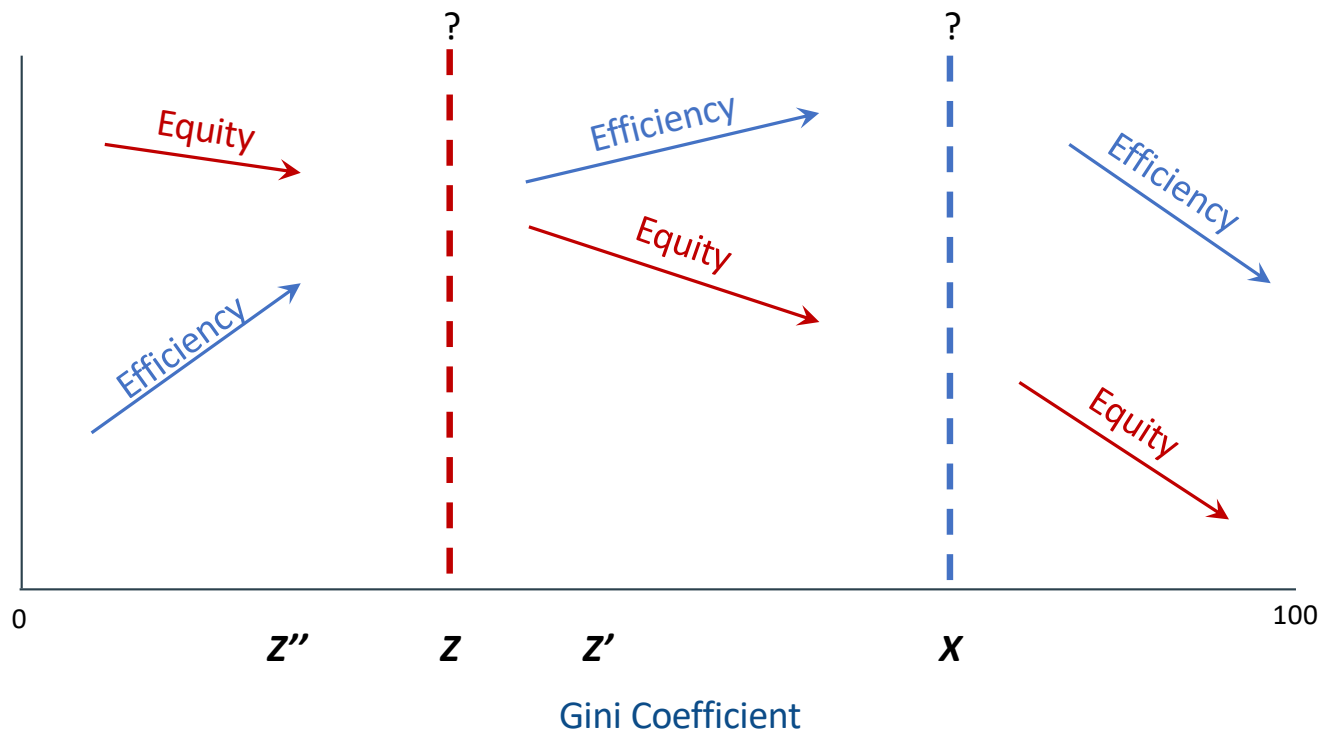**Figure 3L** Share of children from various earnings fifths ending up in the bottom fifth as adults, by race

Odds of *staying* poor, if born poor

Odds of *becoming* poor, if born rich

■ African American
■ White

Earnings fifth as children	African American	White
Bottom	50.8%	26.3%
Second	35.7%	20.5%
Middle	34.1%	15.6%
Fourth	27.2%	14.7%
Top	21.3%	11.3%

Source: Authors' analysis of Mazumder (2011, Table 7)

Economic Policy Institute, *State of Working America*, 2012

How Much Inequality Is too Much?
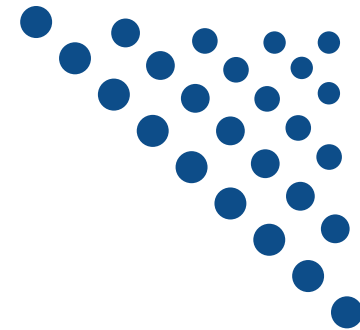
Addressing Inequality: Is It A Problem?

- **Why it might be a problem.**
  - Economic issues (*Efficiency*)
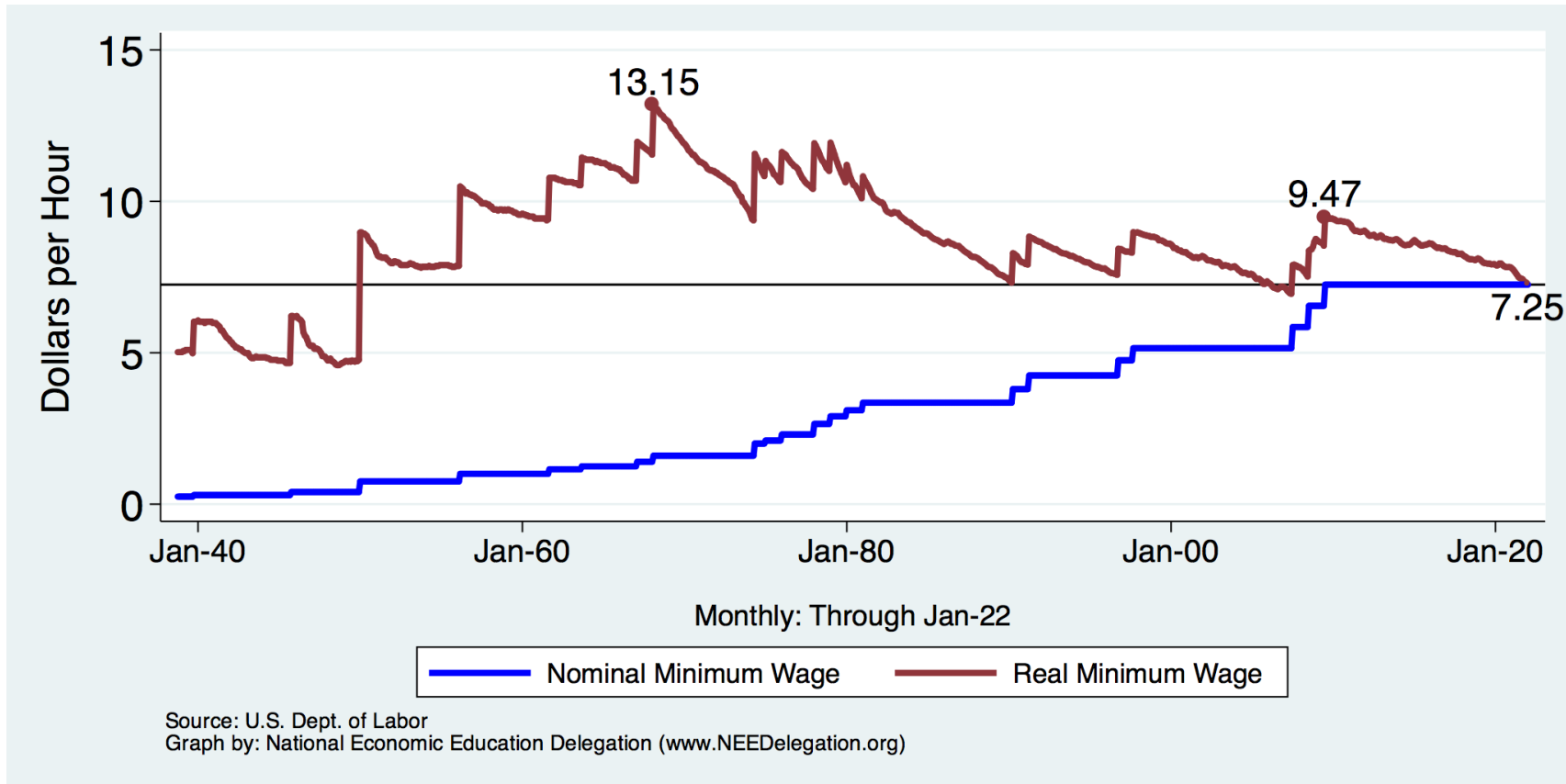   - o There is evidence that at some level, increased inequality slows economic growth.
    - o Or, inequality concentrates resources among investors.
  - Noneconomic issues (*Equity*)
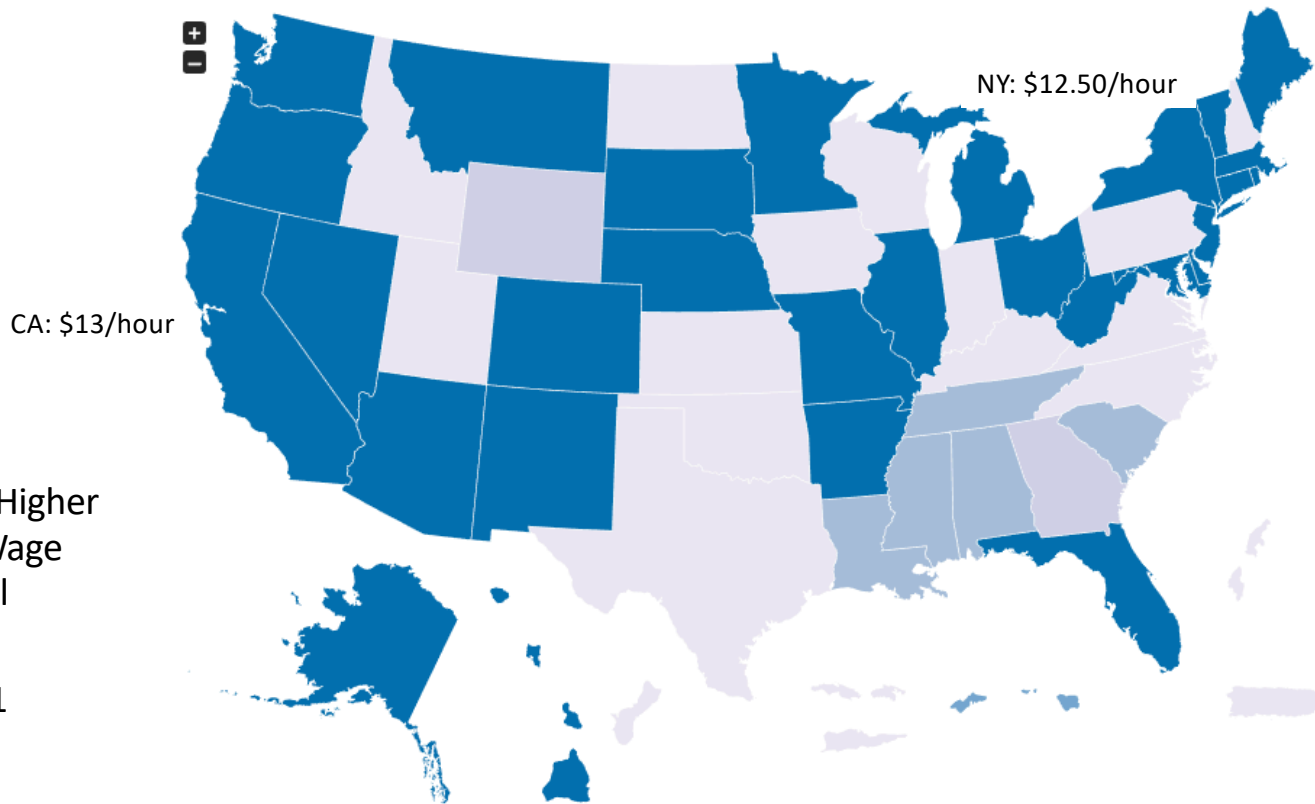   - o Values, ethics and morals will drive individual evaluations of the level of inequality.
      - E.g., inequality is primarily a function of market outcomes, so should be left alone.
      - Or, a solid middle class is important for maintaining a civil society, which runs contrary to a high degree of inequality.

- **Suppose you think it's a problem. How might it be addressed?**

Addressing Inequality:
Immediately Available Policy Solutions (1/2)

- **RE-distribution**
  - Tax and transfer programs

- **PRE-distribution**
  - Strengthen labor unions
  - Collective bargaining
  - Other policies that favor labor over business owners
  - Minimum wages

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Historical Values of Minimum Wages

Monthly: Through Jan-22

Nominal Minimum Wage — Real Minimum Wage

Source: U.S. Dept. of Labor
Graph by: National Economic Education Delegation (www.NEEDelegation.org)

Many States Have A Higher Min Wage

NY: $12.50/hour

CA: $13/hour

States with Higher Minimum Wage than Federal

As of Jan 1, 2021

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Source: U.S. Department of Labor

Addressing Inequality:
# Immediately Available Policy Solutions (2/2)
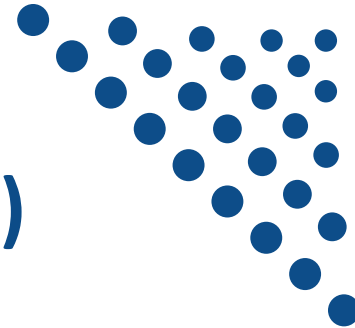
- **Other**
  - Reverse trends in market power

- **Locally**
  - Employment services: job training, interview skills, or assistance with day-to-day issues, such as child care
  - Cognizance of the potential for technologies to affect worker/employer power dynamics
    - Uber, Lyft, etc.

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Addressing Inequality:
Long Term
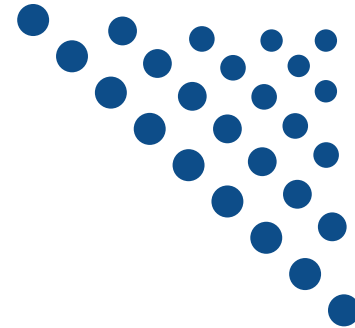
- **It's all about access to resources:**
  - Education, in particular
    - o Improve public education
    - o Reduce disparities in quality of public education
    - o Improve counseling in low-income schools
      - With respect to college – paths to success and funding
    - o Investments are needed in early education, not later (e.g. universal pre-k)
 - Opportunities for wealth-building
  - Housing

- **Initiatives whose impacts cross neighborhood and class lines and increase upward mobility specifically for black men**
  - Mentoring programs for black boys, efforts to reduce racial bias among whites, interventions to reduce discrimination in criminal justice, and efforts to facilitate greater interaction across racial groups.
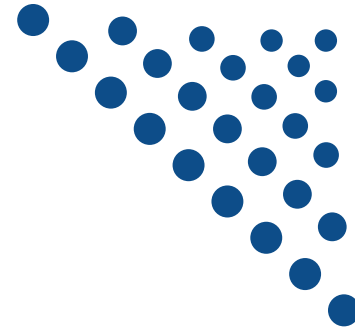
What to do About Inequality?

- **Nothing?**

- **Redistribution?**

- **PRE-distribution?**

- **Access to resources?**
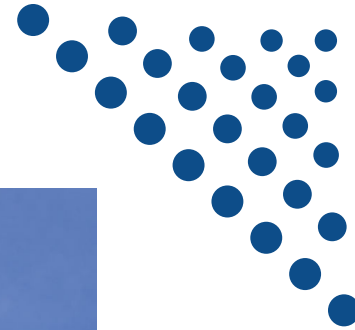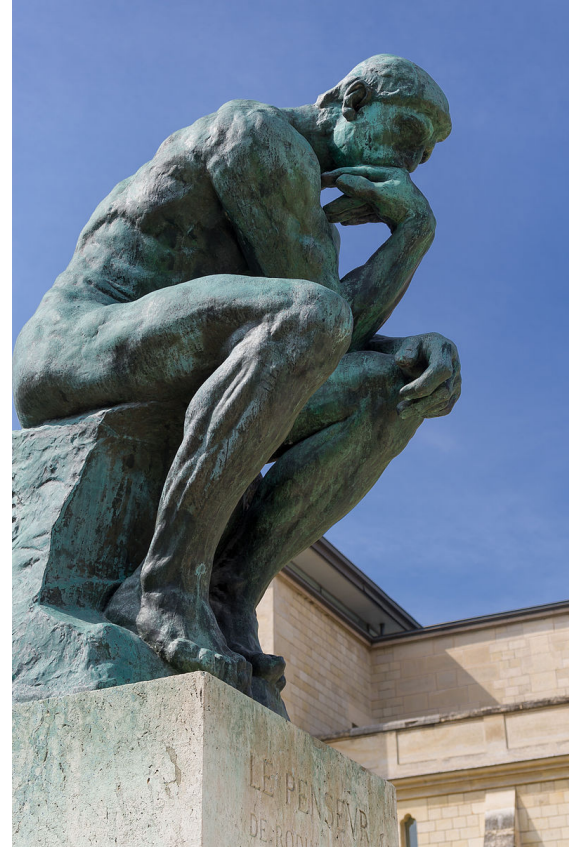
Tension in Policy Solutions

- **Is it possible to increase growth at the same time that you reduce income inequality?**
  - Common refrain among some that government intervention in the economy is always and everywhere bad for growth.

- **Possibly: expanding equality of access promotes the full utilization of resources.**
  - Expanding equality of access requires resources likely from the well-to-do.

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Summary

- **Income inequality is clearly increasing.**
  - The economy is clearly favoring owners of productive resources over labor.

- **The causes appear to be largely driven by:**
  - The market – technology, competition, and trade
  - Changing institutions.

- **Open questions are:**
  - To act or not to act?
  - If so, how?

- **The level of inequality is a policy choice.**

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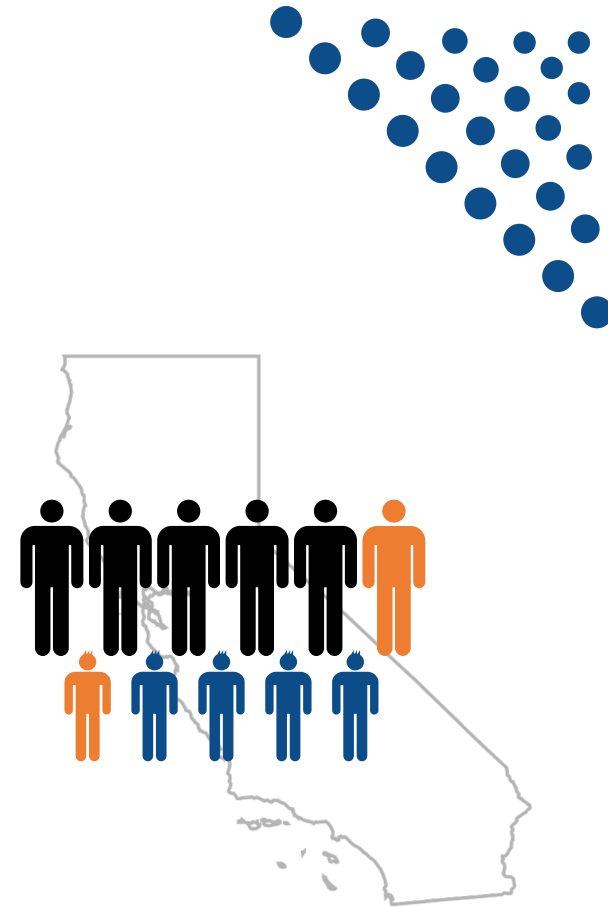
Thank you!

Any Questions?
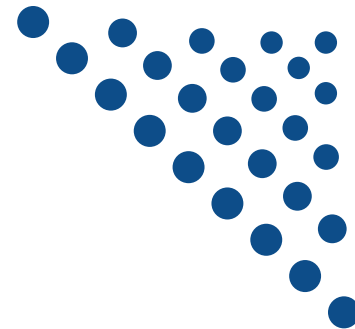
www.NEEDelegation.org

Brian Peterson

petersonbj@central.edu

Contact NEED: info@needelegation.org

Submit a testimonial: www.NEEDelegation.org/testimonials.php

Become a Friend of NEED: www.NEEDelegation.org/friend.php

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Bitcoins: Geoffrey Woglom

Almost 500% increase in 6 months

Blue Line Price of Bitcoin

Red Line: Price of Gold

On, 12/9, 1PM
1 bitcoin = $48k

FRED — Coinbase Bitcoin, 2017-12-01=100
— Gold Fixing Price 10:30 A.M. (London time) in London Bullion Market, based in U.S. Dollars, 2017-12-01=100

Shaded areas indicate U.S. recessions. Sources: Coinbase; ICE Benchmark Administration Limited (IBA)   fred.stlouisfed.org