

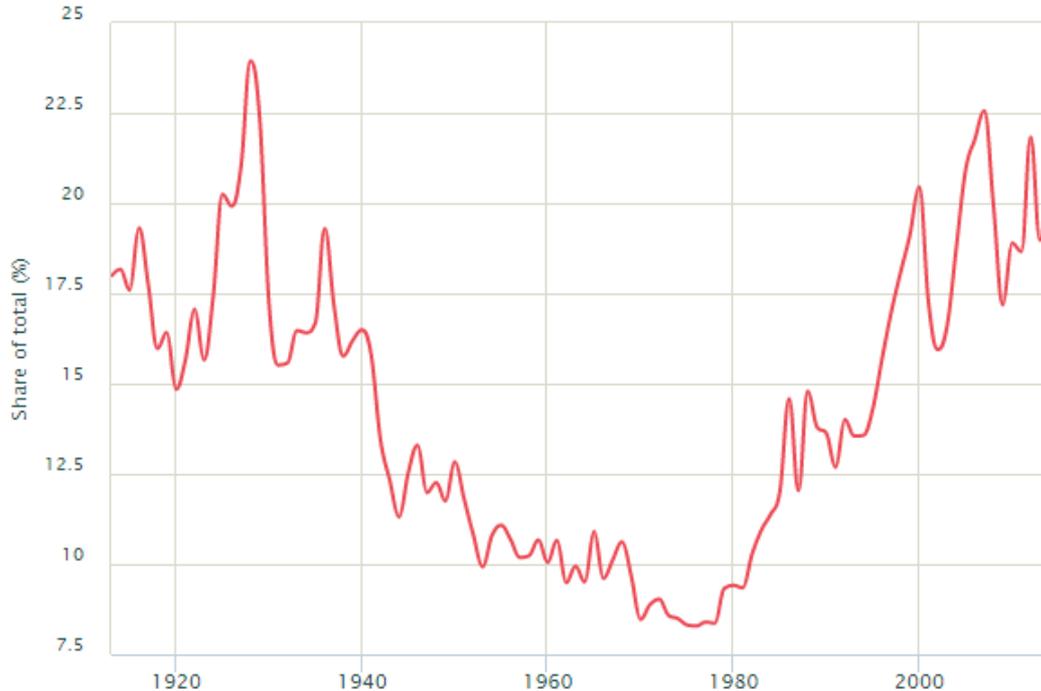
America's Growing Inequality: Causes and Remedies

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Growth in inequality

- There has been an enormous increase in inequality over past third of a century
 - Kuznets' Law, which suggested after a point of time in development, inequality would decrease, has been repealed
 - Kuznet's theory was true when he wrote it
 - "Repeal" began in 70's/80's
 - An increase in poverty, an evisceration of the middle class, increasing share of GDP going to the top
 - Stagnation of most Americans evidence that trickle down economics doesn't work
 - An increase in inequalities in income, wealth, health, access to justice, opportunity
 - Many of these inequalities greater than income inequalities
 - Many related—correlation between income inequalities and inequalities of opportunity

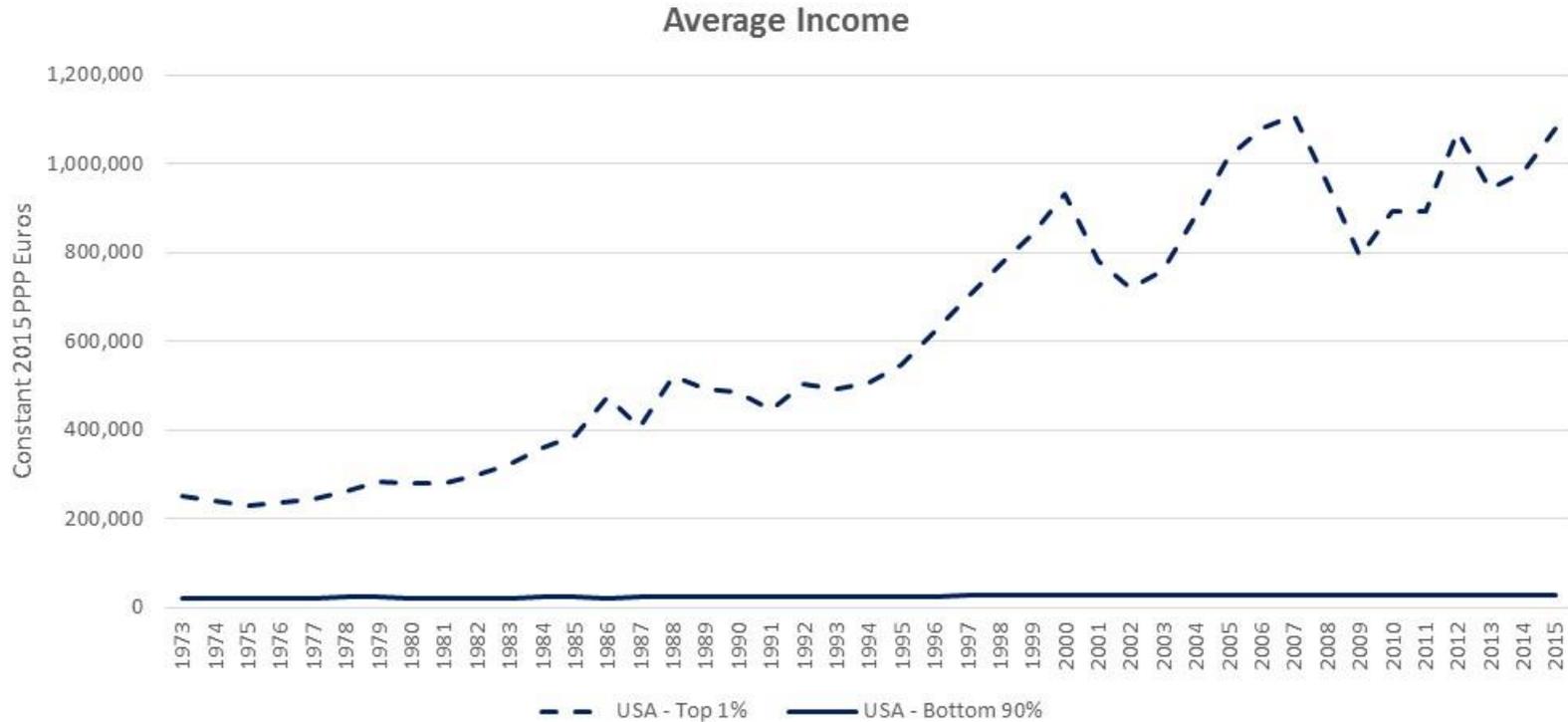
Top 1% income share in the United States 1913-2015



Note: Fiscal income is defined as the sum of all income items reported on income tax returns, before any deduction. It includes labour income, capital income and mixed income. The concept of fiscal income varies with national tax legislations, so in order to make international comparisons it is preferable to use the concept of national income. The population is comprised of individuals over age 20. The base unit is the individual (rather than the household) but resources are split equally within couples.

Source: World Wealth and Income Database.

US: bottom 90% have seen little increase in income over last third of a century

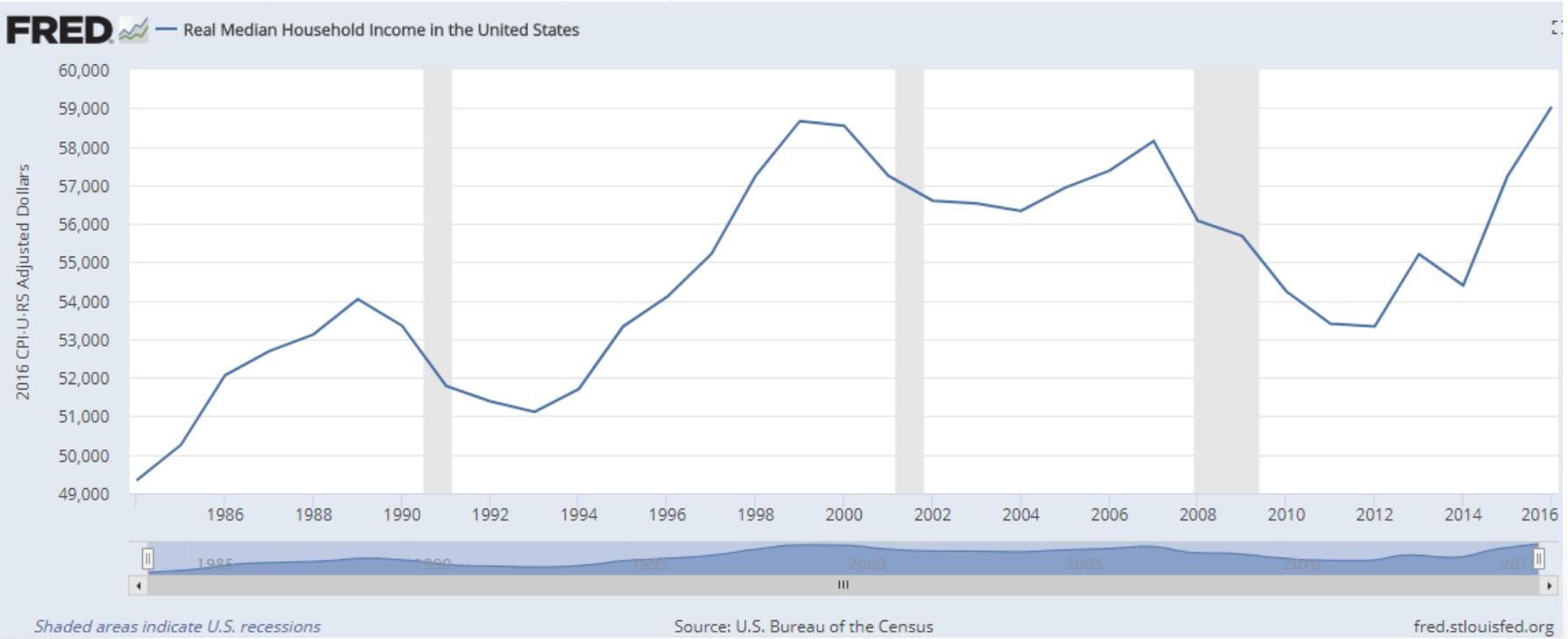


Source: World Wealth and Income Database

Stagnation: U.S. median household income

1998:
\$57,248

2016:
\$59,039



US: Median income of a full time male worker

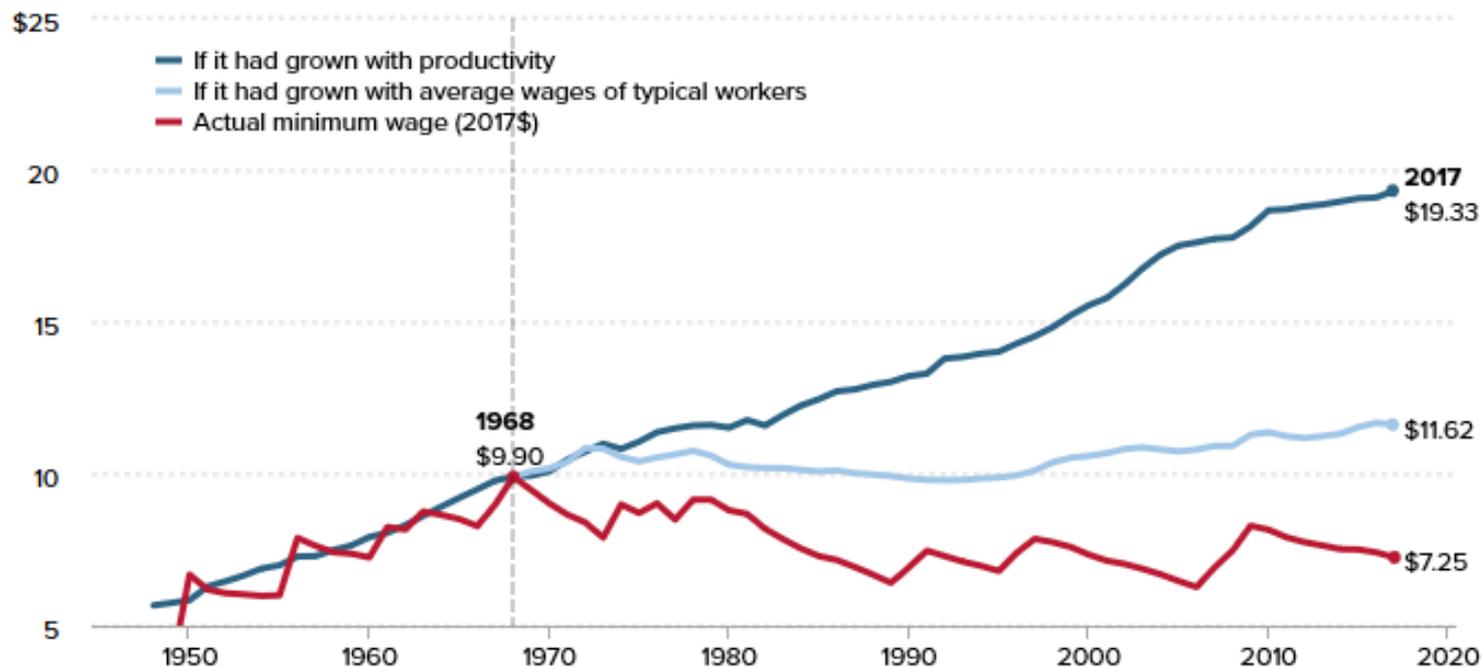


US: Real wages at the bottom are at the level that they were roughly sixty years ago



Source: Federal Reserve

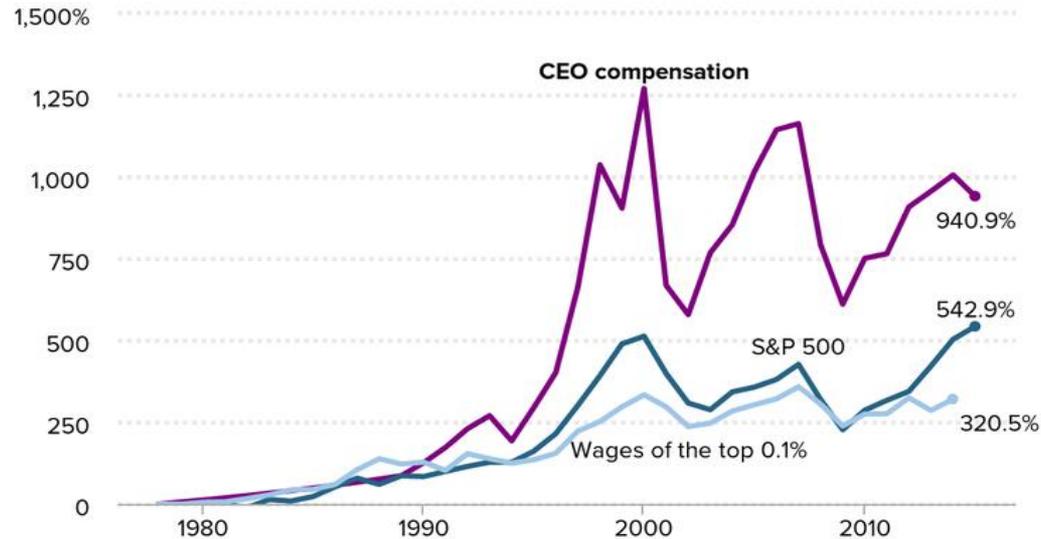
The value of the federal minimum wage in 2017 if it had kept up with a growing economy



Inequality even at the top 0.1%

CEO compensation has grown faster than the wages of the top 0.1 percent and the stock market

Cumulative percentage change in CEO compensation, wages of the top 0.1 percent, and the S&P 500, 1978–2015

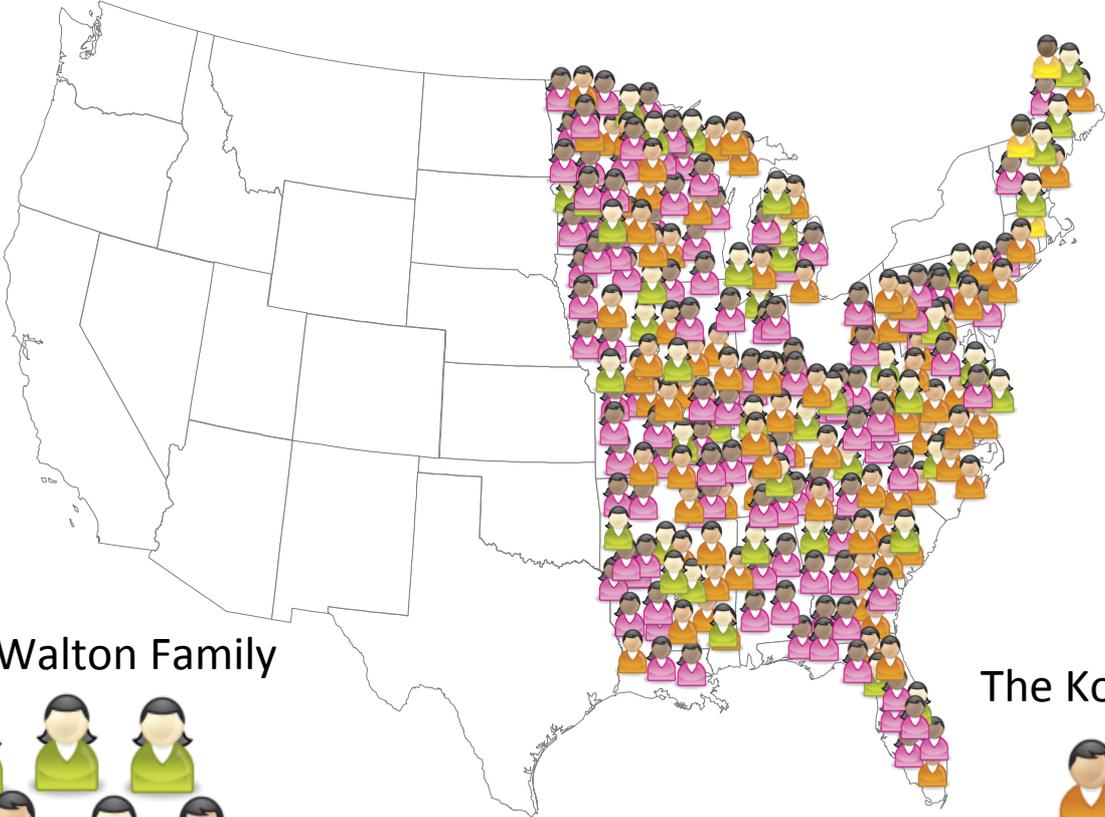


Notes: Wage data for the top 0.1 percent is not yet available for 2015.

Source: EPI analysis of Compustat Execucomp, Social Security Administration, and Federal Reserve Bank of St. Louis databases.

The Walton Family and The Koch Brothers have a net worth of \$212 billion in 2016

That's the net worth of 115 million Americans or 35% of the country.



The Walton Family



The Koch Brothers



Global Inequality

Oxfam reports on wealth concentration at the top: how many of the richest people have as much wealth as bottom 50% (bottom 3.6 billion!)

- In 2010: 388
- In 2017: just 42

82% of all growth in global wealth in 2016 went to the top 1%, while the bottom half saw no increase at all.

The richest 1% continue to own more wealth than the whole rest of humanity.

Big winners during last quarter century

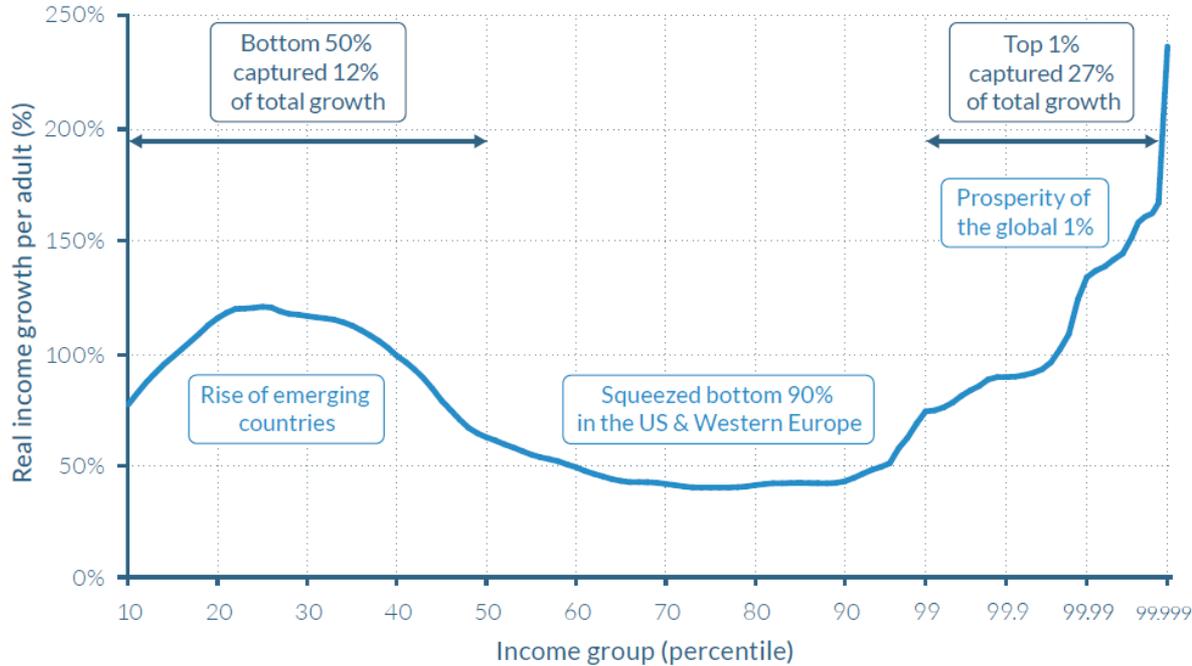
- Global 1% and global middle class (middle class in China and India)

Big losers during last quarter century (not sharing in gains)

- Those at the bottom and the middle class in advanced countries

Global Income Growth by Percentile

The elephant curve of global inequality and growth, 1980–2016



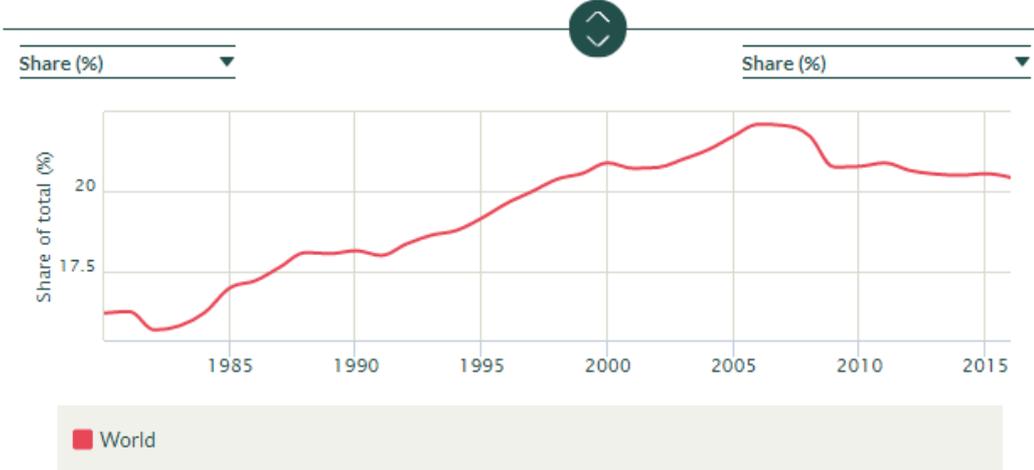
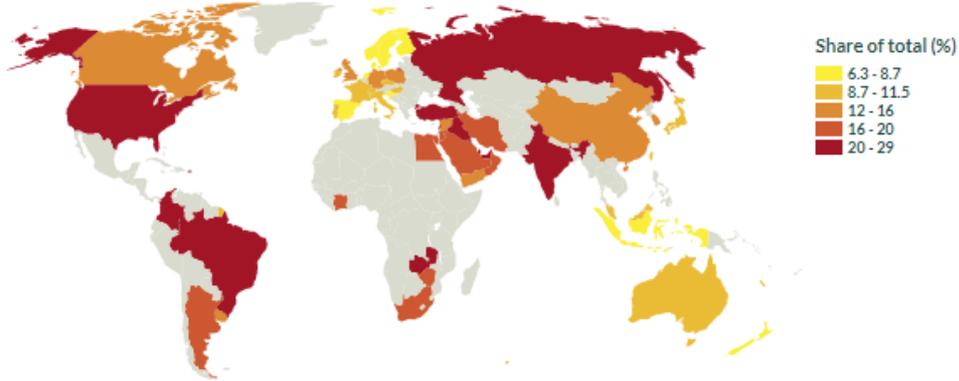
Source: WID.world (2017). See [wir2018.wid.world](#) for more details.

On the horizontal axis, the world population is divided into a hundred groups of equal population size and sorted in ascending order from left to right, according to each group's income level. The Top 1% group is divided into ten groups, the richest of these groups is also divided into ten groups, and the very top group is again divided into ten groups of equal population size. The vertical axis shows the total income growth of an average individual in each group between 1980 and 2016. For percentile group p99p99.1 (the poorest 10% among the world's richest 1%), growth was 74% between 1980 and 2016. The Top 1% captured 27% of total growth over this period. Income estimates account for differences in the cost of living between countries. Values are net of inflation.

Global Inequality: Top 1% National Income Share, 1975-2016

Top 1% national income share

Region View

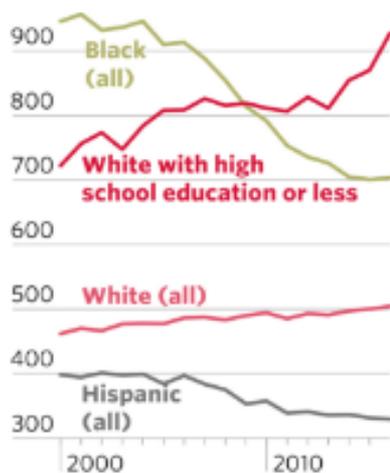


Decline in life expectancies and an increase in deaths of despair

New research shows the increasing mortality rate among white Americans spans age groups and is most acute among the less-educated.

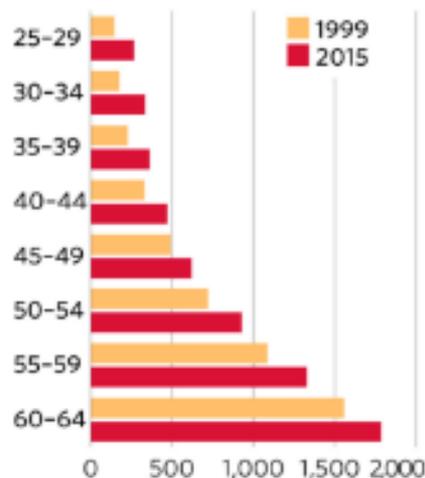
White deaths are rising...

Mortality rate by race, ages 50-54



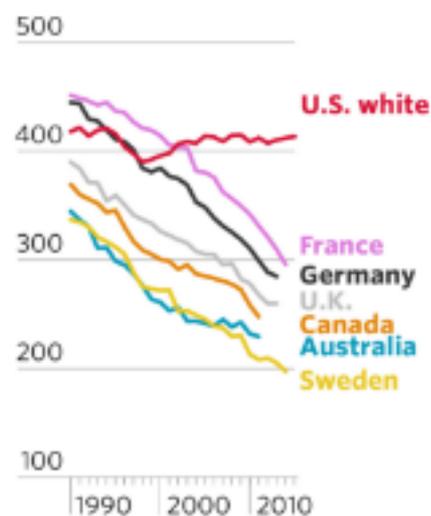
...among all age groups of less-educated whites...

Mortality rate for whites with high school education or less, by age



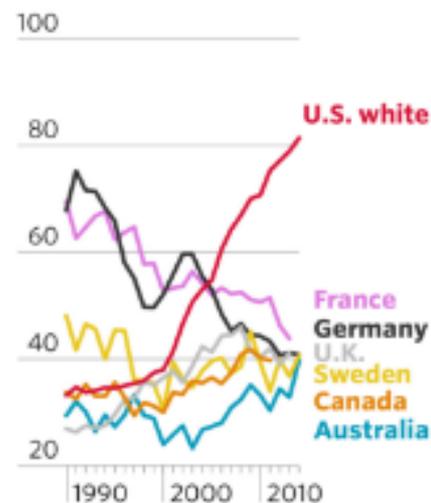
...in contrast to elsewhere...

Mortality rate for all causes, ages 45-54



...due in part to increases in 'deaths of despair'.

Mortality rate due to alcohol, drugs and suicide, ages 50-54

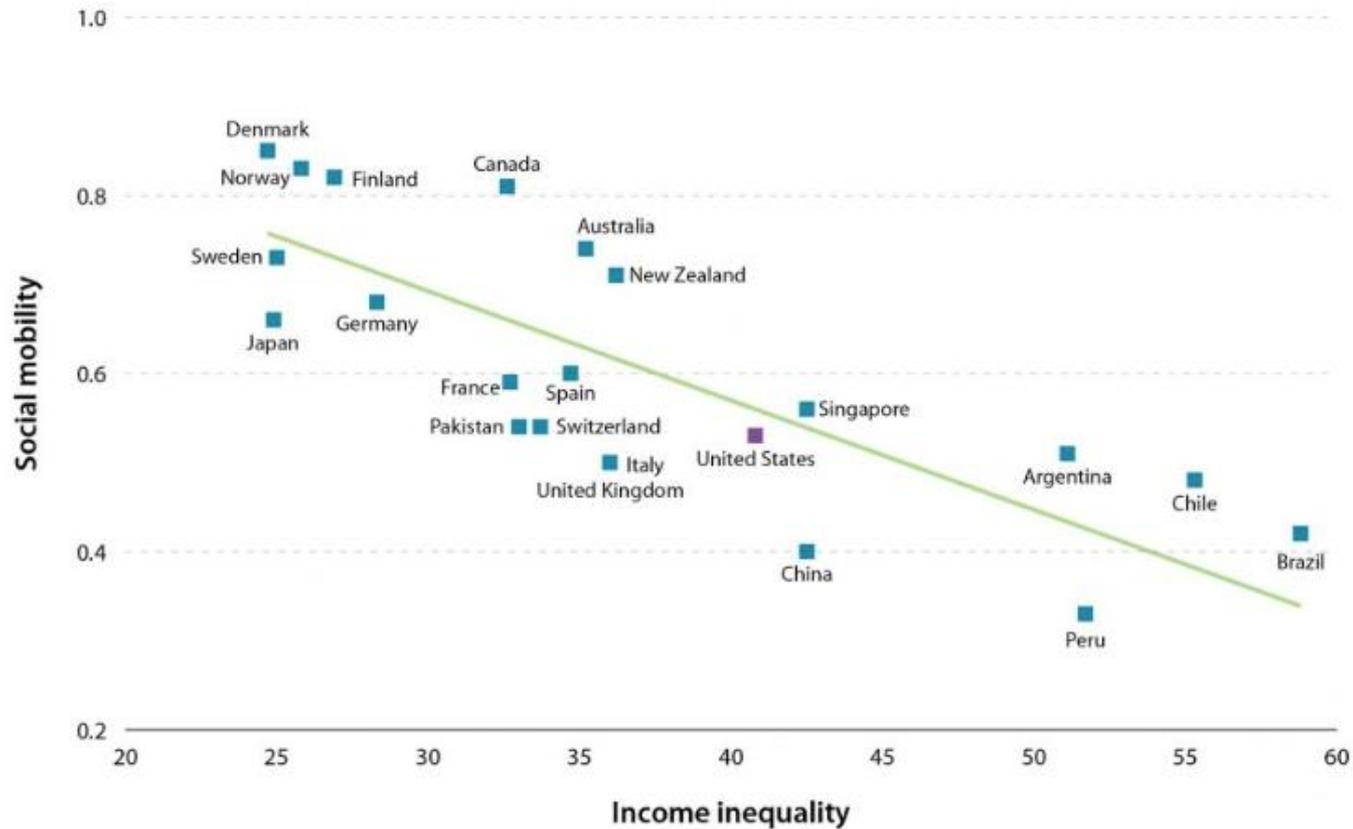


Most invidious aspect: inequality in opportunity

- America among the countries with the least opportunity—in spite of the notion of the country being the land of opportunity (American dream)
 - Life prospects of a young American more dependent on the income and education of his parents than in other advanced countries
- Not a surprise: systematic relationship between inequality in incomes (outcomes) and inequality of opportunity

The Relationship between Income Inequality and Social Mobility

Around the world, high income inequality is associated with low social mobility.



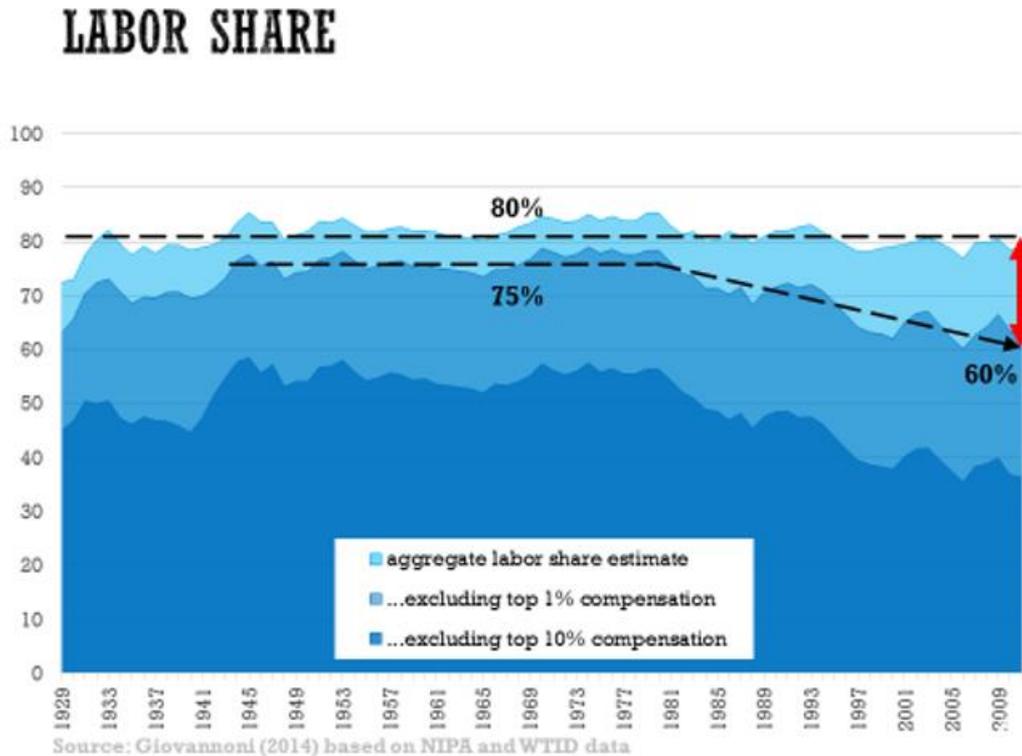
Source: Corak (2013); World Bank (2013).

Note: Reproduction of figure 2 from Corak (2013). Data points for Italy and the United Kingdom overlap. The x-axis shows Gini coefficients as reported by the World Bank. The y-axis is a measure of social mobility and is equal to 1 minus the intergenerational earnings elasticity for each country.

Other aspects of changing economy that have to be explained

- Decrease in share of labor
 - In contrast to earlier period when shares were relatively constant
 - Especially when one excludes top 1%
- Increasing gap between compensation and productivity
 - No sudden change in technology that can explain sudden change
 - Can't be explained by "skilled bias technological change": this is about average pay, and with any production function where aggregate output is a function of aggregate capital, an increase in aggregate capital relative to labor must increase real wages, and decrease share of capital if elasticity of substitution is less than one

Decreased share of labor—especially if one focuses on bottom 99% of labor



US: Disconnect Between Productivity and a Typical Worker's Compensation, 1948-2016

The gap between productivity and a typical worker's compensation has increased dramatically since 1973

Productivity growth and hourly compensation growth, 1948–2016

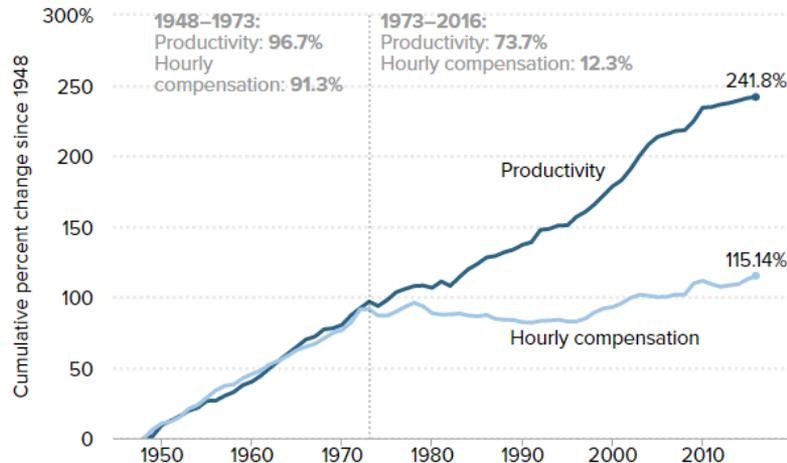


Chart Data

Notes: Data are for compensation (wages and benefits) of production/nonsupervisory workers in the private sector and net productivity of the total economy. "Net productivity" is the growth of output of goods and services less depreciation per hour worked.

Source: EPI analysis of unpublished Total Economy Productivity data from Bureau of Labor Statistics (BLS) Labor Productivity and Costs program, wage data from the BLS Current Employment Statistics, BLS Employment Cost Trends, BLS Consumer Price Index, and Bureau of Economic Analysis National Income and Product Accounts

Updated from Figure A in *Raising America's Pay: Why It's Our Central Economic Policy Challenge* (Bivens et al. 2014)

Productivity–Pay Tracker

Change 1973–2016:

Productivity

+73.7%

Hourly pay

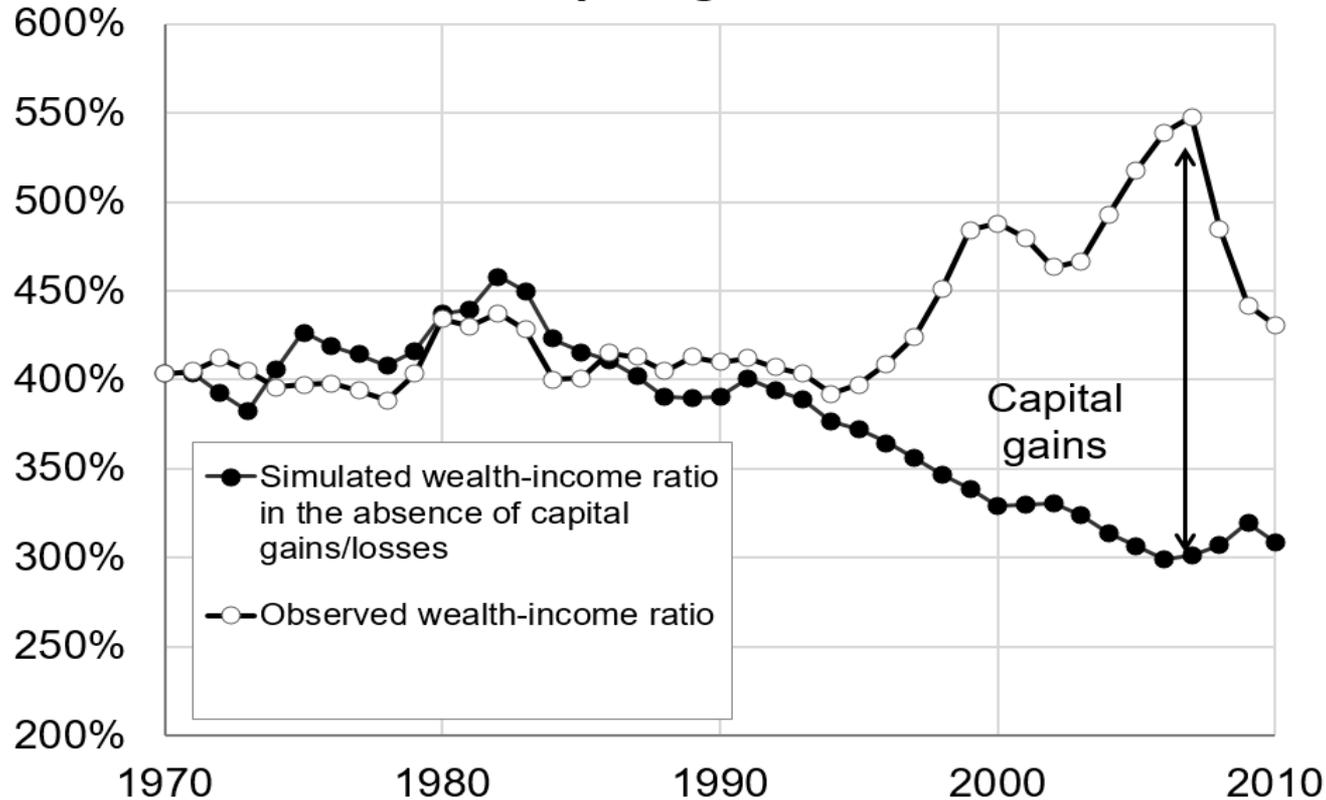
+12.5%

Productivity has grown 5.9x more than pay

Theories have to be consonant with other “stylized facts”

- Pareto tail to wealth distribution
- And consistent with other on-going changes in the economy—explaining conundrums
 - Increasing wealth income ratios, declining capital income ratios
 - By most metrics (though there remain some controversies in the measurement of capital)
 - Large gap between wealth and capital

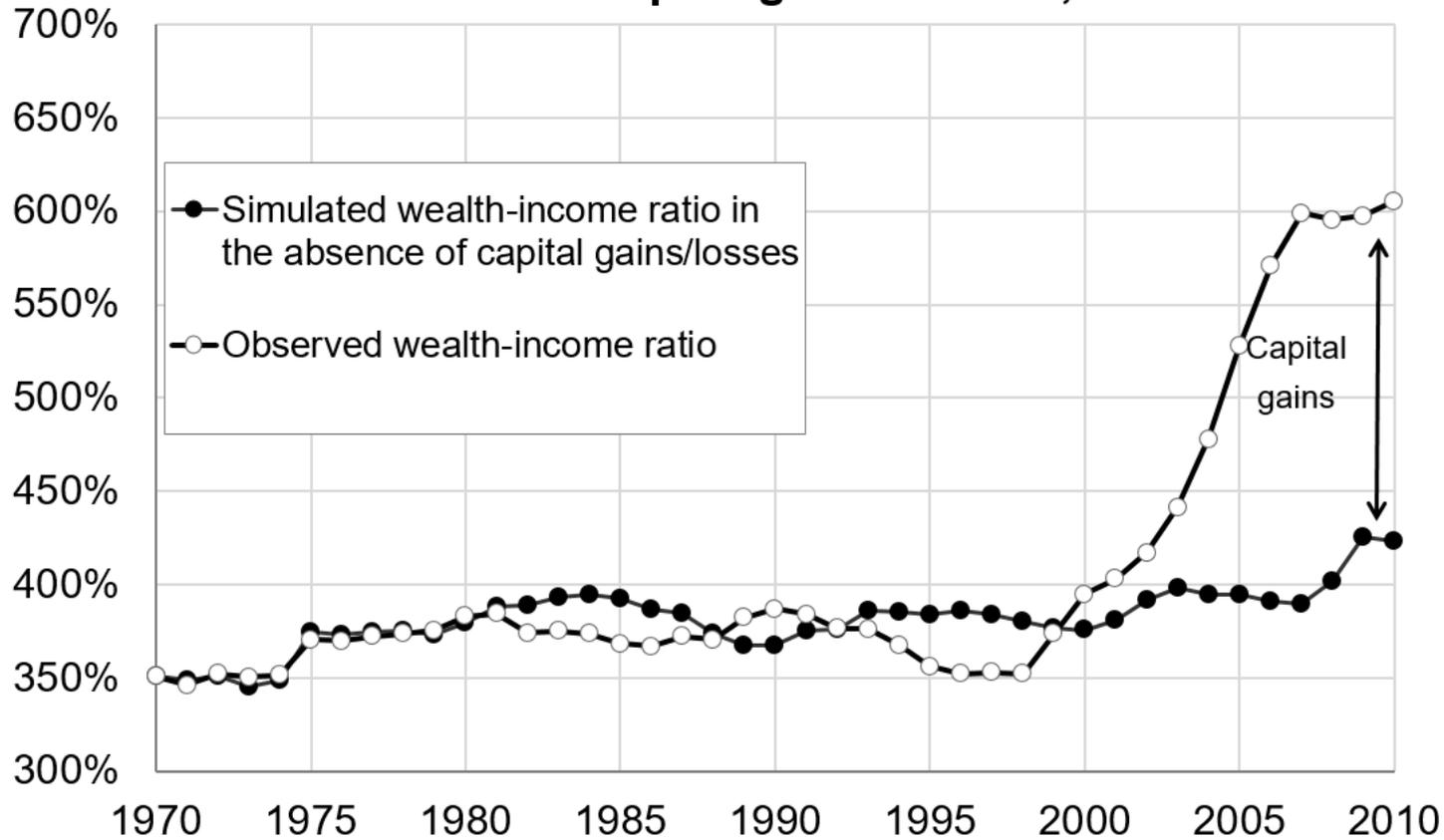
Simulated national wealth-income ratios in the absence of capital gains: U.S. 1970-2010



Authors' computations based on 1970 wealth-income ratios, 1970-2010 national saving flows (including other volume changes) and real income growth rates.

Source: *Capital in the Twenty-First Century*, Thomas Piketty.

Simulated national wealth / national income ratios in the absence of capital gains: France, 1970-2010



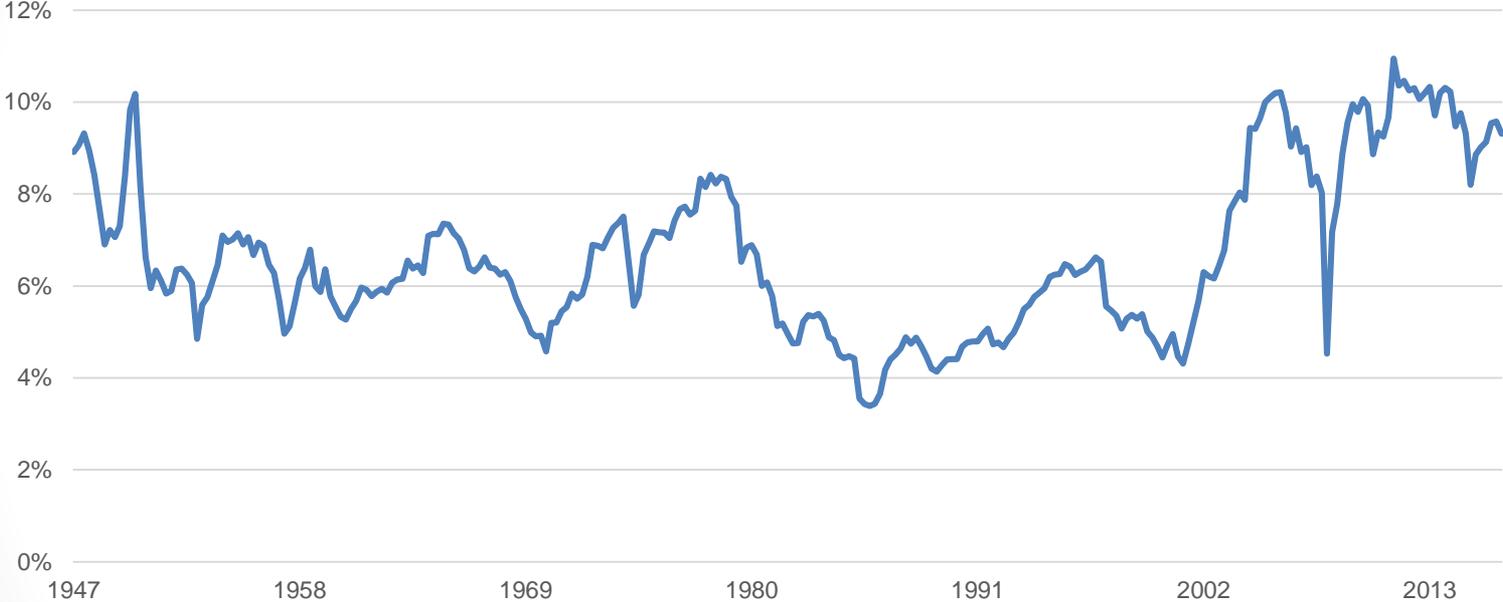
Authors' computations based on 1970 wealth-income ratios, 1970-2010 private saving flows (including other volume changes) and real income growth rates. Source: *Capital in the Twenty-First Century*, Thomas Piketty.

Investment puzzle

- Low investment rates even with low (nominal and real) interest rates and high value of “q” (and in spite of seemingly high *average* returns)
 - Finance not constraint
 - Large firms sitting on trillions in cash
 - Real interest rates have been negative for many periods, small in others
 - Similar patterns exists cross section

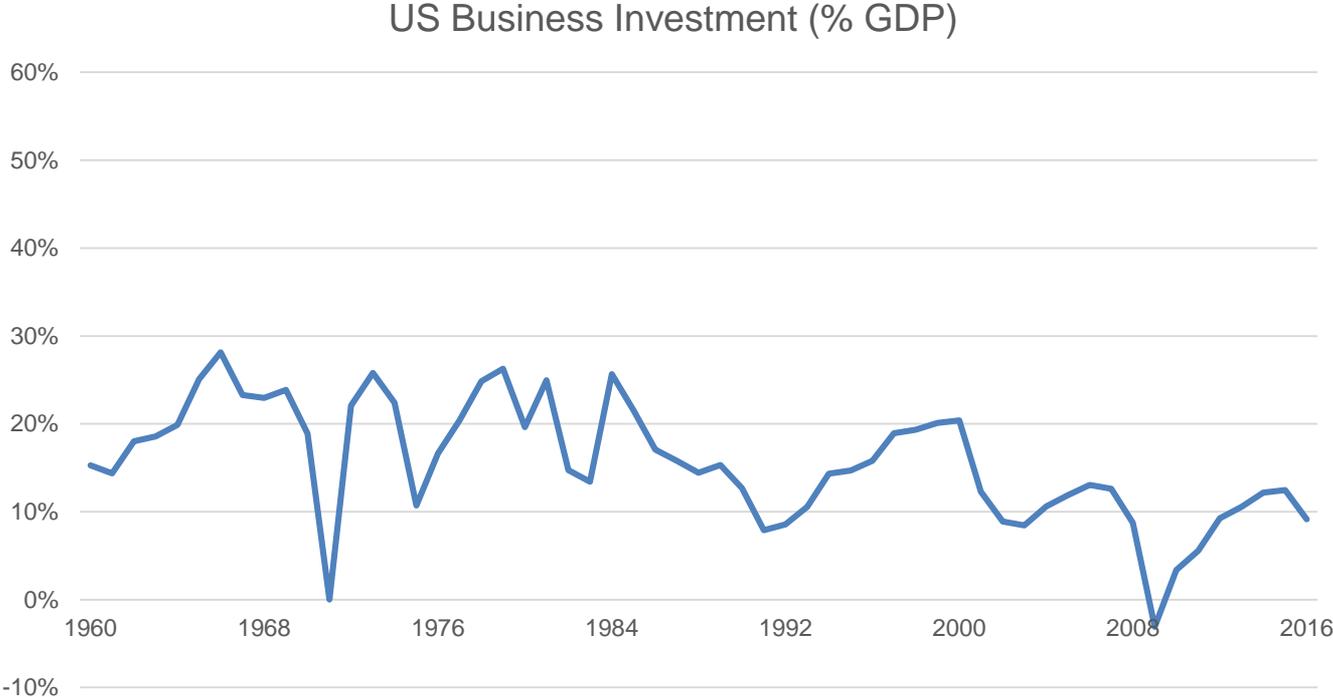
Growing profits...

US Corporate Profits (% of GDP)



Source: Federal Reserve Bank of St. Louis

...and low business investment

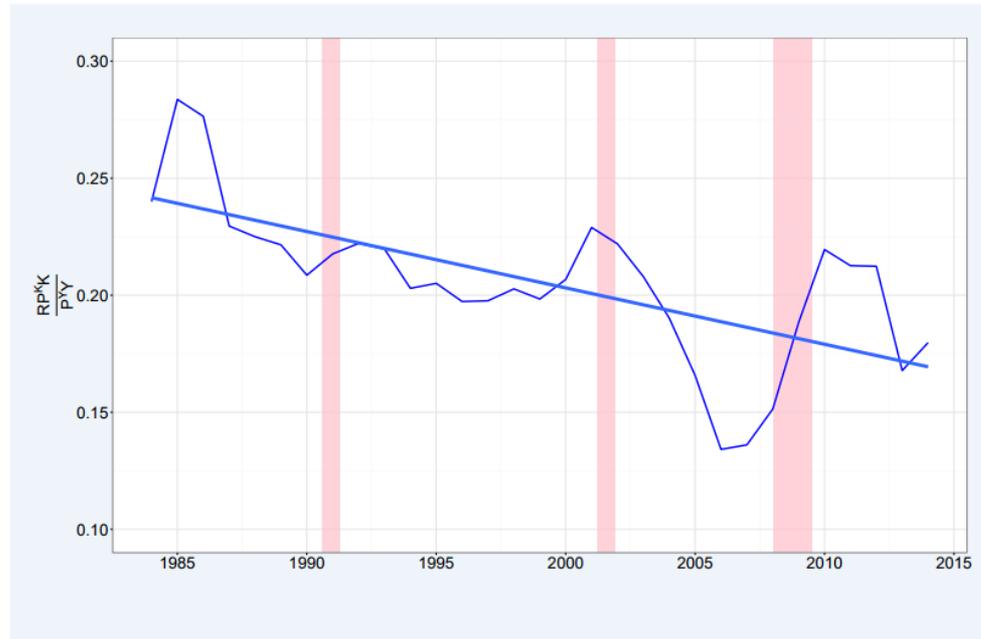


Source: Federal Reserve Bank of St. Louis

Even share of capital down

- By any reasonable accounting framework
- Flip side of the gap between “capital” and “wealth”
- What is up is the share of rents

The capital share of gross value added is declining



The figure shows the capital share of gross value added for the U.S. non-financial corporate sector over the period 1984–2014. Capital payments are the product of the required rate of return on capital and the value of the capital stock. The capital share is the ratio of capital payments to gross value added. The required rate of return on capital is calculated as $R = (i - \mathbb{E}[\pi] + \delta)$. Capital includes both physical capital and intangible capital. The cost of borrowing is set to Moody's Aaa and expected inflation is calculated as a three-year moving average.

Source: Simcha Barkai, University of Chicago

Explaining the growth in inequality

Two key strands within standard economics

- Differences in savings rates
- General theory of distribution, balancing centrifugal and centripetal forces
 - Balance changed
 - Question: Why?
 - Two alternatives
 - Just the workings out of the competitive equilibrium model
 - Increase scarcity of capital, skill-biased technological change
 - Rewriting the rules of the market economy
 - Leading to more Market power/exploitation

A. Disparity in savings

Disparity of savings between rich and rest (Piketty, Kaldor)

- with ever increasing inequality if $s_c r > g$
- Unable to explain key aspects of inequality in income and wealth
 - Declining share of labor
 - Growing gap between compensation and average productivity
 - Inequalities within labor

Piketty model

- Piketty and others have provided important data through which we can see an increase in inequality, especially at the top
- The question is: how do we explain it? Piketty has offered a particular model (effectively, two-class model, based on earlier work of Pasinetti, Samuelson-Modigliani, and Stiglitz)
- Capitalists save all (most) of their income
 - So wealth grows at the rate r
 - If $r > g$, their wealth grows faster than the economy,
 - If r does not decline, their income does too

Key assumptions fail

- $s < 1$
- r is endogenous, and *in long run equilibrium* $sr < g$, even if in *earlier* states of development there may be an increase in inequality

Other key flaw in analysis

- Confusing wealth with capital
- From national income data, K/Y is actually decreasing in US and other advanced countries (though there are important measurement problems)
- Increase in wealth (as opposed to capital) partially a result of monetary policy, giving rise to capital gains on *existing* assets (Stiglitz, 2015)

B. Alternative equilibrium approach

An equilibrium wealth and income distribution, based on balancing of centrifugal and centripetal forces (Stiglitz, 1966, 1969, 2015)

- What we are seeing is a movement from one equilibrium to another
- Centrifugal forces have increased, centripetal forces weakened

Explaining distribution of wealth

i. Changes in intergenerational transmission of advantage

- Lower capital and especially inheritance taxes
 - In US regressive taxation
 - Trump tax even more regressive—if it were sustained, bodes poorly for country
- Weaker, less equal public education
 - More economic segregation
 - More reliance on private education
- Increased role of connections
 - Internships
- More assortive mating

ii. Many changes in markets

- Globalization (weakening wages, especially at bottom)
- Skill biased technological change
- Shift towards service sector (where there is less wage compression)
- These are global forces—inequality greater in US than elsewhere
 - Consequence of US policies

Most important change in markets: growth in rents

- Hard to reconcile earlier observations with standard neoclassical model with competition
- Easy to reconcile in model with rents
 - Third factor (land, knowledge)
 - Monopoly power
 - Intellectual property rents
 - Rent-seeking from public sector
 - Can explain new “stylized facts” and many of “puzzles”

Rents and the Growth in Inequality

- Disparity between growth in wealth (W) and capital (K) reflects an increase in capitalized value of rents, R
 - $W = K + R$
 - Disparity has grown
 - In many models, an increase in R leads to a decrease in real capital accumulation: **R crowds out K.**
 - Decrease in K (relative to what it otherwise would be, or in the rate of increase of K) leads to lower economic growth, at least in the short to medium run
 - Since the wealthy own the assets whose value has increased, the increase in R helps “explain” growth in wealth and income inequality
 - Increasing market power leads to increasing disparity between marginal and average returns to capital, leading to slower investment
 - Consistent with both time series and cross section data on concentration
 - Key message: at least part of the explanation of the increase in R is policy—changes in policy could reduce R, increase K, increasing growth, reducing inequality

Key observations

- Much of the income of those at the top is capital gains, an increase in the value of existing assets.
- Some of the increase in wealth has been an increase in particular of land values.
- Some of the increase in wealth has been an increase in monopoly profits.
 - There has been an increase in market concentration in many industries throughout the economy.
- Some of the increase in wealth has been a result of poor corporate governance (excessive CEO pay) and financialization
- Increases in inter-firm disparities in wages (of individuals of seemingly similar qualifications) account for more of the increase in wage inequality than increases in intra-firm disparities.
 - Firms with market power seem to share some of rents with their workers.

Changes in the structure of the economy over the past third of a century associated with an increase in market power

Some of these are a result of changes in technology and structure of demand

- a) an increase in the importance of sectors with large network externalities, in which naturally there will be one or a few dominant platforms
- b) an increase in the importance of sectors with high fixed costs and low marginal costs (much of the digital and knowledge economy)
- c) Big Data enhanced ability to price discriminate—firms compete not on basis of who is more efficient in production or making desirable goods but on who is best able to engage in price discrimination
- d) One of the implications of the move from manufacturing to the service sector economy is an increase in (the average degree of) market power, since services are provided locally, and competition within each locale for the provision of these services may be limited

There have been large innovations in how to create and sustain market power

- Businesses have long understood this (Adam Smith (1776))

“People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices”

Businessmen not only made their profits by taking advantage of their customers, but also by taking advantage of their workers:

“Masters are always and everywhere in a sort of tacit, but constant and uniform, combination, not to raise the wages of labour above their actual rate [...] Masters, too, sometimes enter into particular combinations to sink the wages of labour even below this rate. These are always conducted with the utmost silence and secrecy.”

Today's business leaders really get this

Peter Thiel:

“competition is for losers.”

Warren Buffett

“The single most important decision in evaluating a business is pricing power. If you've got the power to raise prices without losing business to a competitor, you've got a very good business. If you've got a good enough business, if you have a monopoly newspaper or if you have a network television station, your idiot nephew could run it.”

Describing an entry barrier like being surrounded by a moat:

“[We] think in terms of that moat and the ability to keep its width and its impossibility of being crossed. We tell our manager we want the moat widened every year.”

Major source of innovation in US is the construction of new forms of entry barrier, ideas that are transmitted throughout economy (including by our business schools).

Increase in market power: largely a result of policy

- **Many of the changes in our economy—including the increasing market power—are a result of changes in policy—rewriting the rules of the market economy**
 - in ways which led to slower growth and more inequality
 - increases in monopoly and monopsony power
 - weakening of countervailing forces—unions
- Strengthening of intellectual property rights has enhanced the market power of those who do make advances in knowledge
- Weakened enforcement of anti-trust
 - New doctrines: In an era in which we should have tightened competition power, we went the other way
- Globalization weakening bargaining power of workers

Increased rents as explaining the paradoxes of modern growth

- *If* capital and wealth were the same, then the observed increase in the wealth income ratio should have led to a decreased share of capital, given the wealth of studies suggesting an aggregate elasticity of substitution less than unity
- Should also have led to an increase in wages
 - Skilled biased technological change only affects *relative* wages, not appropriate weighted average wage
- If high fixed costs as share of production were the cause of market concentration, would have expected share of investment to have gone up
- Disconnect between productivity and compensation
 - No sudden change in technology that can explain sudden change
 - Can be explained by changes in rules, norms, including globalization
- But paradoxes are resolved if we recognize distinction between *wealth* and *capital*.
 - While wealth/income or wealth/per capita has increased, capital/income and capital/per capita has decreased, at least for many advanced countries

Important new perspective of inequality

- **Not inevitable consequence of market forces**—not simply the result of the “laws of nature” or the “laws of economics”
 - Cannot be explained within competitive model
 - Though changes in technology can have impacts
- Largely the result of *policy*, of how we structure markets
 - The whole gamut of policies: Including corporate governance, monetary policy, intellectual property, labor law, globalization policies, and anti-trust
 - Markets don't exist in a vacuum
 - In that sense, inequality has been a choice

- The rules of the economy were rewritten in the Reagan-Thatcher era and afterwards in ways which led to more inequality and poorer economic performance
 - Significant increases in rents (monopoly rents, land rents, intellectual property rights, rent extraction by corporate executives and financial sector)
 - Weakening of workers' bargaining position
- These rents increase inequality, reduce economic efficiency, and slow growth
 - With increases in capitalized value of rents "crowding out" real capital accumulation.
- They now have to be rewritten once again, in ways that can reduce inequality and improve economic performance

Endogenous economic and political equilibrium

- But the choices themselves need to be viewed as endogenous, as part of a political and economic equilibrium
- We have constructed several models where there are multiple equilibria
 - One with low inequality, another with high inequality
- Economic inequality leads to political inequality
 - With high levels of political inequality rules of the game are set to favor the rich
 - Giving rise to and supporting high levels of economic inequality
- Some countries seemed to be trapped in the high inequality equilibrium, others to be in the low inequality equilibrium.

Concluding comments

There can exist not only poverty traps by inequality traps

- Where society gets trapped in an equilibrium with high levels of inequality
- Large adverse consequences for persistent inequality
- Changes in technology/structure of demand can lead the economy to move from an equilibrium with a high level of inequality to one in which there is an even higher level of inequality
- Appropriate policy interventions can reduce the level of inequality

Beyond the standard economic model

- But to understand fully inequality, its growth and consequences, and what we can do about it, we have to go further
- Inequality affects who we are
 - Recognizing the endogeneity of preferences and how they are shaped by our culture
 - Inequalities can reinforce and be reinforced by
 - social identities, aspirations, themselves affected by
 - segregation by income group—by marriage, neighborhood, & schooling

Politics: Inequality undermines democracy

- Not just cultivating inequalitarian social attitudes
- Rich know that true democracy risks changing rules which have advantaged them
- So they engage in massive disenfranchisement
- And attempt to constraint what government can do (“putting democracy in chains”)
- Problem of protections of minority against rule by majority have been reversed: majority needs protection against rule by minority
- Only effective system of societal checks and balances entails limiting inequality

- While economic models can help us understand causes and consequences of inequality, a full explanation of what has been happening in advanced countries requires going beyond the standard competitive market framework
 - To realize the importance of the rules of the game
 - How they've been changed in ways that increase inequality and lower economic performance
 - Leading to more rents and lower share of labor
 - There are changes that would make the economy both more efficient and yield a better distribution of income
- This broader understanding of some of the sources of inequality and the consequences gives us a new range of tools with which to address inequality, especially in some of its most adverse aspects.