US Income and Wealth Inequality

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Overview

Inequality is likely an important driver of populism.

It is important for markets to understand the drivers of inequality and how income and wealth inequality have developed in different countries.

The bottom line is that inequality is increasing in most countries around the world and there are no signs of this changing anytime soon.
Technological change disproportionately raise demand for capital and skilled labor over low-skilled and unskilled labor by eliminating many jobs through automation or upgrading the skill level required to attain or keep those jobs.

Trade openness raises skill premium, but also increases real wages by lowering import prices. While increased trade lowers income inequality in EMEs by increasing demand and wages for abundant lower-skilled workers.

FDI and portfolio flows increase income inequality through concentration of foreign assets and liabilities in relatively higher skill- and technology-intensive sectors, pushing up demand for wages of higher skilled workers.

More flexible labor market institutions can pose challenges for workers, especially those with low skills, and hence play an important explaining role in inequality developments.

Governments in advanced economies have historically mitigated inequality through public policy—primarily progressive taxes and social transfers such as public retirement benefits.

Effect of increased educational attainment on income inequality could be either positive or negative depending on the evolution of rates of return to education.

Source: OECD, DB Global Markets Research
Country groups with similar patterns of inequality

Low inequality in household disposable income

- Denmark
  - Iceland
  - Norway
  - Sweden
  - Switzerland

  Low dispersion in labor income (high employment rate and little wage dispersion). Cash transfers tend to be universal and taxes are not highly progressive.

Belgium
- Czech Republic
- Estonia
- Finland
- France
- Italy
- Slovak Republic
- Slovenia

  Average dispersion in labor income (little wage variation but low employment or high part-time rate). Highly concentrated capital and self-employment income. Cash transfers (largely insurance-based) and taxes are not highly progressive.

Austria
- Germany
- Greece
- Hungary
- Japan
- Korea
- Luxembourg
- Poland
- Spain

  Individual labor income is concentrated, reflecting above average dispersion in wages and a low employment or high part-time rate. Taxes and transfers are not highly progressive.

Australia
- Canada
- Germany
- Ireland
- Netherlands
- New Zealand
- United Kingdom

  Above average wage dispersion coupled with a high part-time rate. Cash transfers are targeted and taxes are progressive.

Chile
- Israel
- Mexico
- Ireland
- Portugal
- Turkey
- United States

  High concentration of labor, capital and self-employment income. The poverty rate is high.

Higher inequality in household disposable income

Source: OECD, DB Global Markets Research
Overview
Percentage of population receiving food stamps, 2016

Source: CBPP, DB Global Markets Research
More families than ever before have zero or negative non-home wealth.

Financial resources: percent with zero or negative non-home wealth

A record high 30% of households have no wealth.

S&P500 and home prices may be at all-time highs but the median family still has low net worth

Median net worth
(2016 Dollars)

Inequality trends began in the mid-1980s
Younger generations have smaller and smaller net worth

Mean Net Worth by age group
(Ratio to Overall Mean)

- Under 35
- 35-44
- 45-54
- 55-64
- 65-74
- 75 & over

Income inequality very high in the United States

Gini coefficient

Note: Gini coefficients (disposable income, post taxes and transfers) are based on equivalised incomes for OECD countries, Colombia, Latvia and the Russian Federation; per-capita incomes for other countries; and per-capita consumption for India and Indonesia. Data from 2014 or latest year available.

Source: OECD, DB Global Markets Research
Income inequality increasing everywhere

Gini coefficients of income inequality, mid-1980s and 2014 or latest available year

Note: Income refers to disposable household income, corrected for household size.

Source: OECD, DB Global Markets Research
Across OECD countries, incomes have increased more for high-income households

Trends in real household incomes at the bottom, the middle and the top, OECD average, 1985 = 1

Note: Income refers to disposable household income, corrected for household size. OECD is the unweighted average of 17 countries (Canada, Germany, Denmark, Finland, France, United Kingdom, Greece, Israel, Italy, Japan, Luxembourg, Mexico, Netherlands, Norway, New Zealand, Sweden and United States).

Source: OECD, DB Global Markets Research
US Income inequality today and over time
Gini coefficients have increased for both income and net worth.

Wealth and Income Inequality (Gini coefficients)

The 2.3 million people in the top 1% of the income distribution earn on average $1.3mn per year.

Average pre-tax income in the U.S. in 2014

Source: Piketty, Saez, and Zucman (2016, Table 1), DB Global Markets Research
US: The top 10 percent of families own $51trn in wealth, or about 75% of total household wealth

Holdings of family wealth, by wealth group

- Bottom 50 percent
- 51st to 90th percentiles
- Top 10 percent

Source: Congressional Budget Office, using data from the Survey of Consumer Finances, supplemented with data from Forbes magazine’s list of the nation’s 400 wealthiest people, DB Global Markets Research
Income share up significantly for highest incomes

Top 10% Pre-tax Income Share in the United States, 1917–2015

Note: Series based on pre-tax cash market income including realized capital gains and excluding government transfers.

Source: Alvaredo et al. (2016), DB Global Markets Research
Top 1% earn 22% of total income, up from 8% in the 1970s

Decomposing the U.S. Top 10%
Pre-tax Income into Three Groups

Share of total income accruing to each group

- Top 1% (incomes above $443,000 in 2015)
- Top 10-5% (incomes between $124,800 and $180,500)
- Top 5-1% (incomes between $180,500 and $443,000)

Note: Series based on pre-tax cash market income including realized capital gains and excluding government transfers.

Source: Atkinson, Piketty and Saez. (2015)., DB Global Markets Research
Wage inequality a key driver of income inequality

Share of top income decile in total income
Share of top income decile in total income excluding capital gains
Share of top wage decile in total wage bill

Source: Piketty (2014), DB Global Markets Research
Business income and capital gains make up bigger share of income for the Top 0.1%

U.S. Top 0.1% Pre-Tax Income Share and Composition

Salaries  Business Income  Capital Income  Capital Gains

Note: Series based on pre-tax cash market income including or excluding realized capital gains, and always excluding government transfers.

Source: Atkinson, Piketty and Saez. (2015)., DB Global Markets Research
Incomes have stagnated for lower income groups, increased for higher income groups

Real family income between 1967 and 2015, as % of 1973 level

Source: US Census, DB Global Markets Research
Higher income growth at the top of the income distribution

Cumulative Growth in Average Inflation-Adjusted After-Tax Income, by Before-Tax Income Group, 1979 to 2013

- Lowest Quintile
- Middle Three Quintiles
- 81st to 99th Percentiles
- Top 1 Percent

Source: CBO, DB Global Markets Research
Income inequality up no matter how you measure the Gini coefficient

Gini Indexes Based on Market, Before-Tax, and After-Tax Income, 1979 to 2013

Source: CBO, DB Global Markets Research

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Income concentration at the top has increased since the 1970s

Share of total before tax income flowing to the highest income households in United States, 1913-2015

Source: World Wealth and Income database, DB Global Markets Research
Declining labor share is negatively related to higher inequality

United States: labor share vs Gini ratio
1967-2015

\[ y = -0.014x + 1.2814 \]

\[ R^2 = 0.6865 \]
Tax cuts have increased inequality

Source: BLS, FRED, Piketty 2014 database, DB Global Markets Research
Different income growth under different political parties

Source: Unequal democracy by Larry Bartels, DB Global Markets Research

Average annual growth in real income:

- Democrats
- Republicans

Income quintile:

Source: Unequal democracy by Larry Bartels, DB Global Markets Research
The more education you have the higher are your earnings

Total money earnings of US population in 2015 by educational attainment

Source: Census, DB Global Markets Research
Disconnect between productivity and wage growth since 1970s contributed to higher inequality in the U.S.

Productivity growth vs wage growth

- Real Output per Hour of All Persons (ls)
- Real Compensation per Hour (ls)
- Gini ratio (rs)

Source: BLS, Census, Haver Analytics, DB Global Markets Research
Spending on luxuries and necessities by income

Nominal consumption shares in total expenditure by income quintile

Luxuries are defined as goods or services consumed in greater proportions as a person's income increases. Specifically luxuries are: Food away from home, Owned dwellings, Household furnishings, equipment, Vehicles, Cash contributions, Entertainment, Personal insurance, pensions, Other vehicle expenses, Public transportation, and Other lodging.

Necessities are defined as goods or services whose consumption is proportionately less as a person's income increases. Specifically, necessities are: Food at home, Rented dwellings, Utilities, fuels, public services, Healthcare, Education, Personal care, Tobacco, smoking products, Gas and motor oil, Housekeeping supplies, Alcoholic beverages, Reading, and Apparel and services.

Source: Consumer Expenditure Survey BLS, Haver Analytics, DB Global Markets Research
US wealth inequality today and over time
600,000 households have net worth of more than $10mn

The Number of Households (in 1,000s) with Net Worth Equal to or Exceeding (in 1995$):

Wealth inequality has also increased

Top 0.1% (above $20 million) Wealth Share in the United States, 1913–2012

Note: Series based on pre-tax cash market income including or excluding realized capital gains, and always excluding government transfers.

Source: Atkinson, Piketty and Saez. (2015)., DB Global Markets Research
Share of wealth owned by the bottom 90% has gone down

Bottom 90% Wealth Share in the United States, 1917–2012

Note: Series based on pre-tax cash market income including or excluding realized capital gains, and always excluding government transfers.

Source: Atkinson, Piketty and Saez. (2015)., DB Global Markets Research
Composition of wealth for the bottom 90%

Composition of the Bottom 90% U.S. Wealth Share

- Housing
- Equites & fixed income claims
- Business assets
- Pensions

Note: Series based on pre-tax cash market income including or excluding realized capital gains, and always excluding government transfers.

Source: Atkinson, Piketty and Saez. (2015), DB Global Markets Research
Real average wealth of bottom 90% and top 1% families

Real values are obtained by using the GDP deflator, 2010 dollars.

Source: Saez and Zucman (2016)., DB Global Markets Research
Households are classified into wealth class according to their net worth. Brackets for 2013 are:
Top one percent: Net worth of $7,766,500 or more.
Next 9 percent: Net worth between $980,900 and $7,766,500.
Bottom 90 Percent: Net worth less than $908,900.

Wealth composition for middle income America

Composition of household wealth of the middle three wealth quintiles, 1983-2013

- Miscellaneous assets
- Unincorporated business equity
- Corporate stock, financial securities, mutual funds, and personal trusts
- Pension accounts
- Liquid assets
- Principal residence

Top 5% of population hold 65% of net worth

The distribution of net worth, percentage share of net worth held by:

- Top 1%
- Next 4%
- Bottom 95%

Top 1%: Composition of gross assets

Composition of household wealth by wealth class, 2016:
Top one percent
(percent of gross assets)

- Principal residence: 7.6%
- Liquid assets: 4.6%
- Pension accounts: 6.0%
- Corporate stock, financial securities, mutual funds, and personal trusts: 31.4%
- Miscellaneous assets: 1.4%
- Unincorporated business equities: 49.0%

Middle 3 quintiles: Composition of gross assets

Composition of household wealth by wealth class, 2016:
middle 3 quintiles (percent of gross assets)

- Principal residence: 61.9%
- Pension accounts: 16.6%
- Liquid assets: 8.5%
- Corporate stock, financial securities, mutual funds, and personal trusts: 3.9%
- Unincorporated business equities: 7.9%
- Miscellaneous assets: 1.2%

The Top 10% own more stocks

Percent of total stocks and debt held by top 10% wealth class

Mean wealth of the Top 1% divided by median wealth

Ratio of the mean wealth of the Top one percent to median wealth:
Actual change in the ratio

Middle 3 quintiles have had higher returns than the Top1% since the crisis

Average annual rates of return by wealth class, net worth

25% of households hold more than $25K in stocks

Percent of households holding stocks: Stock of $25,000 or more

*1995 dollars

Top 1% own 40% of stocks held by households

Concentration of stock ownership by wealth class, 2016

Shares
Cumulative sum

%

0 20 40 60 80 100

100 80 60 40 20 0

Top 1% Next 4% Next 5% Next 10% Second quintile Third quintile Fourth quintile Bottom quintile

Households making more than $250K own 60% of stocks held by households

Concentration of stock ownership by income class, 2016

- Shares
- Cumulative sum

Comparing US inequality with inequality in other countries
The rich has gotten richer over time in most countries

Top 1% share of total economy-wide income

Note: Total income is defined as the sum of all income items reported on income tax returns, before any deduction.

Source: WID database, DB Global Markets Research
Incomes of the top 20% increased while incomes of middle 20% decreased

Change in income share, 1990-2009

- Middle 20%
- Top 20%

Source: WID database, DB Global Markets Research
Comparing inequality in US with France and UK

The top 1% and bottom 90% wealth distribution

Source: WID database, DB Global Markets Research
U-shaped development in income inequality in English speaking countries

Top 1% Income Share: English Speaking Countries (U-shaped)

Source: WID database, DB Global Markets Research
L-shaped development in income inequality in Europe and Japan

Top 1% Income Share: Continental Europe and Japan (L-shaped)

Source: WID database, DB Global Markets Research
The top marginal tax rate of the income tax (applying to the highest incomes) in the U.S. dropped from 70% in 1980 to 28% in 1988.

Source: Piketty (2014). Figure also appears in Piketty and Saez (2014)., DB Global Markets Research
Other taxes affecting the top 1% have also fallen

- Dividend income tax (ls)
- Corporate income tax (ls)
- Top 1% income share (rs)

Source: OECD Tax Database, OECD Income Database, DB Global Markets Research
Big differences in income growth across the income distribution

Trends in real household income by income group, mid-1980s to late 2000s, average annual change in percent

Note: Income refers to disposable household income, corrected for household size and deflated by the consumer price index (CPI). Average annual changes are calculated over the period from 1985 to 2008, with a number of exceptions: 1983 was the earliest year for Austria, Belgium, and Sweden; 1984 for France, Italy, Mexico, Turkey and the United States; 1986 for Finland, Luxembourg, and Norway; 1987 for Ireland; 1988 for Greece; 1991 for Hungary; 1992 for the Czech Republic; 1995 for Australia and Portugal and 1996 for Chile. The latest year for Chile was 2009; for Denmark, Hungary, and Turkey it was 2007; and for Japan 2006. Changes exclude the years 2000 to 2004 for Austria, Belgium, Ireland, Portugal and Spain for which surveys were not comparable.

Source: OECD, DB Global Markets Research
Product and labour market regulations and institutions became weaker

Developments in product market regulation, employment protection legislation, tax wedges and union density, OECD average, 1980-2008

(1980 = 100)

Source: OECD, DB Global Markets Research

Note: “PMR” is a summary indicator for product market regulation. “EPL” is a summary indicator of the strictness of overall employment protection legislation (only available from 1985 onwards). “Tax wedge” refers to an average worker and is the sum of income tax and employees and employers payroll taxes as a percentage of labour costs. “Union density” is the number of union members as a proportion of all employees eligible to be members.
Hours worked declined more among lower-wage workers

Trends in annual hours worked by the bottom and top 20% of earners, OECD average, mid-1980s to mid-2000s

Note: Paid workers of working age.

Source: OECD, DB Global Markets Research
The capital share in rich countries, 1975-2010

Capital income bigger part of total income in advanced economies than in the past

Source: Piketty (2014), DB Global Markets Research
Median net household wealth low in the US

Median net household wealth, 2010 or latest available year values in 2005 USD

Source: OECD Wealth Distribution Database., DB Global Markets Research
Net household wealth at bottom of wealth distribution

Net household wealth, Bottom quintile
2010 or latest available year, values in 2005 USD

Source: OECD Wealth Distribution Database, DB Global Markets Research
Net household wealth at top of wealth distribution

Net household wealth, Top quintile
2010 or latest available year, values in 2005 USD

- Slovak Republic
- Finland
- Greece
- Norway
- Portugal
- Netherlands
- France
- Germany
- Korea
- Italy
- OECD18
- Spain
- Belgium
- Australia
- United Kingdom
- Austria
- Canada
- United States
- Luxembourg

Source: OECD Wealth Distribution Database, DB Global Markets Research
Top 5% earn 40% of income

The distribution of income, percentage of income earned by:
- Top 1%
- Next 4%
- Bottom 95%

The opioid crisis and labor supply
Life expectancy at birth falling recently

Life expectancy at birth in the United States

Source: CDC, DB Global Markets Research
Price of heroin has fallen a lot

Price of heroin in United States, 1981-2012

More people die of an opioid overdose

Unintentional overdose deaths in the United States, 1980-2015

Source: cdc.gov/nchs/data, DB Global Markets Research
Death by drug overdoses in 2015

Source: https://www.cdc.gov/drugoverdose/data/statedeaths.html, DB Global Markets Research
More people use heroin

Self-reported last use of heroin

Self-reported health status for workers age 25-54 by labor force status

Many more people in prison in the United States

Medicaid covers 30% of the 2.2mn adults with opioid addiction

Medicaid covers 3 in 10 nonelderly adults with opioid addiction

Total: 2.2 million in 2015

- Medicaid: 30%
- Private insurance: 40%
- Other/Unknown: 10%
- Uninsured: 20%

Source: https://www.kff.org/infographic/medicaids-role-in-addressing-opioid-epidemic/, DB Global Markets Research
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Appendix 1
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