Measuring the Distribution of Household Wealth Using the Financial Accounts of the United States

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Note: The analysis and conclusions set forth are those of the authors and do not indicate concurrence by the Board of Governors.

Why Do We Care about the Wealth Distribution?

"**The extent of and continuing increase in inequality in the United States greatly concern me.** The past several decades have seen the most sustained rise in inequality since the 19th century after more than 40 years of narrowing inequality following the Great Depression. By some estimates, income and wealth inequality are near their highest levels in the past hundred years, much higher than the average during that time span and probably higher than for much of American history before then. **It is no secret that the past few decades of widening inequality can be summed up as significant income and wealth gains for those at the very top and stagnant living standards for the majority. I think it is appropriate to ask whether this trend is compatible with values rooted in our nation's history, among them the high value Americans have traditionally placed on equality of opportunity**."

Federal Reserve Chair Janet L. Yellen remarks at the Conference on Economic Opportunity and Inequality, Federal Reserve Bank of Boston, Boston, Massachusetts on October 17, 2014.

G20-DGI 2
Recommendation II.9

Recommendation II.9: Household Distributional Information

The Inter-Agency Group on Economic and Financial Statistics (IAG), in close collaboration with the G-20 economies, to encourage the production and dissemination of distributional information on income, consumption, saving, and wealth, for the household sector. The OECD to coordinate the work in close cooperation with Eurostat and ECB.

*The **Target** is that by 2021 G-20 economies are:*

Encouraged to compile and disseminate data on the distribution of income, consumption, savings and **wealth by household groups** (first priority: by **income quintile**), according to the methodology put forward by the Expert Group.

Distributional Financial Accounts (DFA)

- **Goal:** create a Distributional Financial Accounts (DFA), a quarterly data set that shows household wealth by income quintile

- Describe two different source data sets:

  1. **Survey of Consumer Finance (SCF):** a nationally representative survey of households

  2. **Financial Accounts of the United States (FA):** an integrated macro-level data set that shows balance sheets and capital flows of different sectors of the economy

- Explain methodology for combining micro SCF data with macro FA data

- Illustrate how DFA can shed new light on household wealth inequality in the United States

Survey of Consumer Finances (SCF)

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Changes in U.S. Family Finances from 2013 to 2016: Evidence from the Survey of Consumer Finances

Jesse Bricker, Lisa J. Dettling, Alice Henriques, Joanne W. Hsu, Lindsay Jacobs, Kevin B. Moore, Sarah Pack, John Sabelhaus, Jeffrey Thompson, and Richard A. Windle of the Board's Division of Research and Statistics prepared this article with assistance from Peter Hansen and Elizabeth Llanes.

The Federal Reserve Board's triennial Survey of Consumer Finances (SCF) collects information about family incomes, net worth, balance sheet components, credit use, and other financial outcomes.[1] The 2016 SCF reveals broad-based gains in income and net worth since the previous time the survey was conducted, in 2013.[2]

During the three years between the beginning of the 2013 and 2016 surveys, real gross domestic product grew at an annual rate of 2.2 percent, the civilian unemployment rate fell from 7.5 percent to 5 percent, and the annual rate of change in the consumer price index averaged 0.8 percent.[3] These changes in aggregate economic performance led to broad-based income gains across many different types of families. Several observations from the SCF about family incomes stand out:[4]

- Between 2013 and 2016, median family income grew 10 percent, and mean family income grew 14 percent (figure 1).
- Families throughout the income distribution experienced gains in average real incomes between 2013 and 2016, reversing the trend from 2010 to 2013, when real incomes fell or remained stagnant for all but the top of the income distribution.
- Families at the top of the income distribution saw larger gains in income between 2013 and 2016 than other families, consistent with widening income inequality.
- Families without a high school diploma and nonwhite and Hispanic families experienced larger proportional gains in incomes than other families between 2013 and 2016, although more-educated families and white non-Hispanic families continue to have higher incomes than other families.

The improvements in economic activity along with rising house and corporate equity prices combined to support increases in average and median family net worth (wealth) between 2013 and 2016 after both measures remained stagnant between 2010 and 2013. The national CoreLogic Home Price Index increased at an annual rate of 6.5 percent between

1 See box 1, "The Data Used in This Article," for a general description of the SCF data. The appendix to this article provides a summary of key technical aspects of the survey.
2 For a detailed discussion of the 2013 survey as well as references to earlier surveys, see Jesse Bricker, Lisa J. Dettling, Alice Henriques, Joanne W. Hsu, Kevin B. Moore, John Sabelhaus, Jeffrey Thompson, and Richard Windle (2014), "Changes in U.S. Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances," *Federal Reserve Bulletin*, vol. 100 (September), https://www.federalreserve.gov/pubs/bulletin/2014/pdf/scf14.pdf.
3 Changes in aggregate statistics reported here are measured from March to March or first quarter to first quarter of the respective survey years, just prior to the beginning of the field period for each survey.
4 Income is measured for the year before the survey.

- Micro level survey on household income, wealth, demographic characteristics, etc.
- Sponsored by the Board of Governors of the Federal Reserve System in cooperation with Department of the Treasury
- Survey contractor: National Opinion Research Center at the University of Chicago
- Consistent triennial survey, 1995-2016; Data available about 1 year after reference period

Survey of Consumer Finances (SCF)

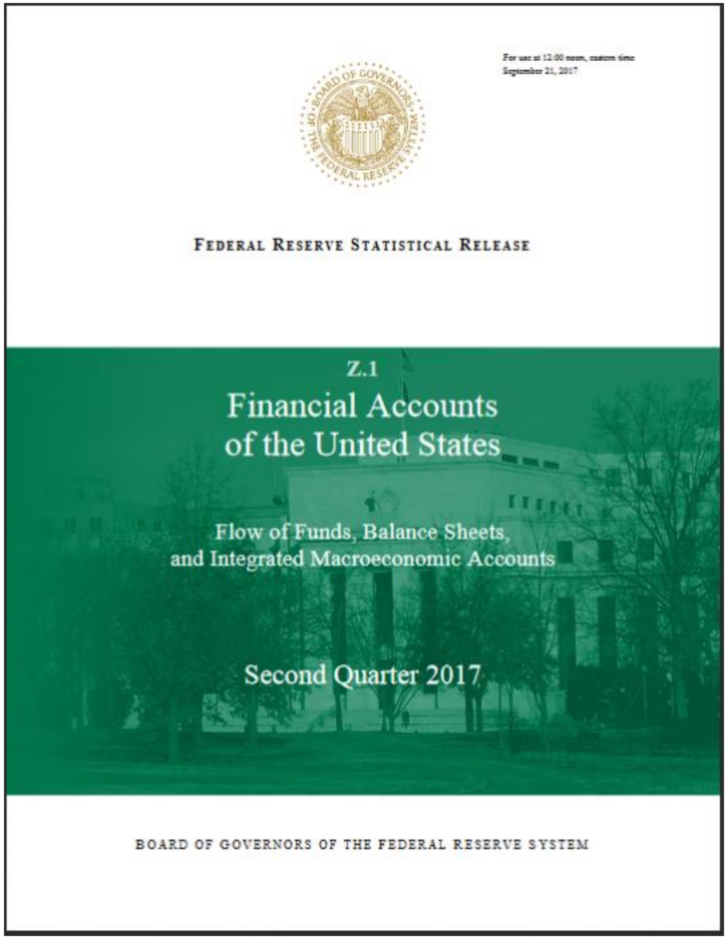
- About 6,300 households are surveyed in an lengthy, voluntary, self-reported interview
- Duel-frame sampling:
  - **Area-probability sampling -** about a 65% response rate
  - **Separate list sample -** compiled from administrative data to over-sample wealthy people, about 30% response rate
- Use weights to combine samples into high-quality, nationally representative, detailed data set on U.S. households

SCF 2016 Income Groups

Households are divided into income groups based on **pre-tax usual income**:

Income Group	Annual income (2016)
Quintile 1: 0% - 20%	< $25,300
Quintile 2: 20% - 40%	$25,300 - $43,500
Quintile 3: 40% - 60%	$43,500 - $69,500
Quintile 4: 60% - 80%	$69,500 - $111,400
Quintile 5: 80% - 100%	> $111,400
Top 10%: 90% - 100%	> $177,100

Financial Accounts of the United States (FA)



- Macro level data set that includes consistent flow and balance sheet detail for sectors in the U.S. economy
- Published by Board of Governors of the Federal Reserve System
- Quarterly data 1952:Q1 – 2017:Q2; Annual data beginning 1945
- Published 10 weeks after the end of the reference quarter

Financial Accounts of the United States (FA)

- Full macro level household and nonprofits organizations sector balance sheet with detailed nonfinancial and financial assets, liabilities, and net worth
- Separate nonprofit organizations sector with annual data for 1989-2013, allowing its removal from the household and nonprofit organizations sector
- Mostly consistent with international standards described in the System of National Accounts (SNA2008), allowing better comparisons with other countries
- Household variables are computed from counterparty data or residually

Distributional Financial Accounts (DFA)

- **Higher frequency**: 1995:Q3 - 2017:Q2 (FA)
- **More timely**: latest quarter available with a 10 week lag (FA)
- **More comparable**: consistent with international reporting standards (FA)
- **More detailed**: household demographic information (SCF)

Methodology

1. **Calculate SCF shares**
   a. Receive household balance sheet data from SCF by income quintile
   b. Calculate each quintile group's instrument share
   c. Linearly interpolate triennial shares into quarterly shares
   d. Hold last SCF share values constant through the last FA publication quarter

SCF Data: Balance Sheet 2016

Billions of dollars

	Top 10%	Total	Top 10% Shares
Total assets	**61,250.2**	**99,119.5**	**0.62**
Real estate	13,431.7	30,089.5	0.45
Consumer durable goods	1,030.6	3,278.6	0.31
Deposits	4,739.0	8,846.8	0.54
Securities	23,067.0	29,650.1	0.78
Equity in noncorporate business	13,383.8	17,232.0	0.78
Assets in retirement accounts	4,550.3	8,166.1	0.56
Other assets	1,047.9	1,856.3	0.56
Liabilities	**4,217.0**	**11,942.6**	**0.35**
Home mortgages	3,677.3	9,446.1	0.39
Consumer credit	437.9	2,357.9	0.19
Other liabilities	101.9	138.7	0.73
Net worth	**57,033.2**	**87,176.9**	**0.65**

Methodology

1. Calculate SCF shares
2. **Adjust FA instrument categories to better align with the SCF**
   a. Exclude nonprofit organizations
   b. Exclude major household appliances and furniture from consumer durable goods
   c. Include non-corporate business real estate and mortgages in household measures

Methodology

1. Calculate shares
2. Adjust FA instrument categories to better align with the SCF
3. **Apply quintile shares**
    a. Multiply FA adjusted household assets and liabilities by calculated quarterly SCF quintile shares
    b. Aggregate series for each quintile group: total assets, total liabilities, and net worth

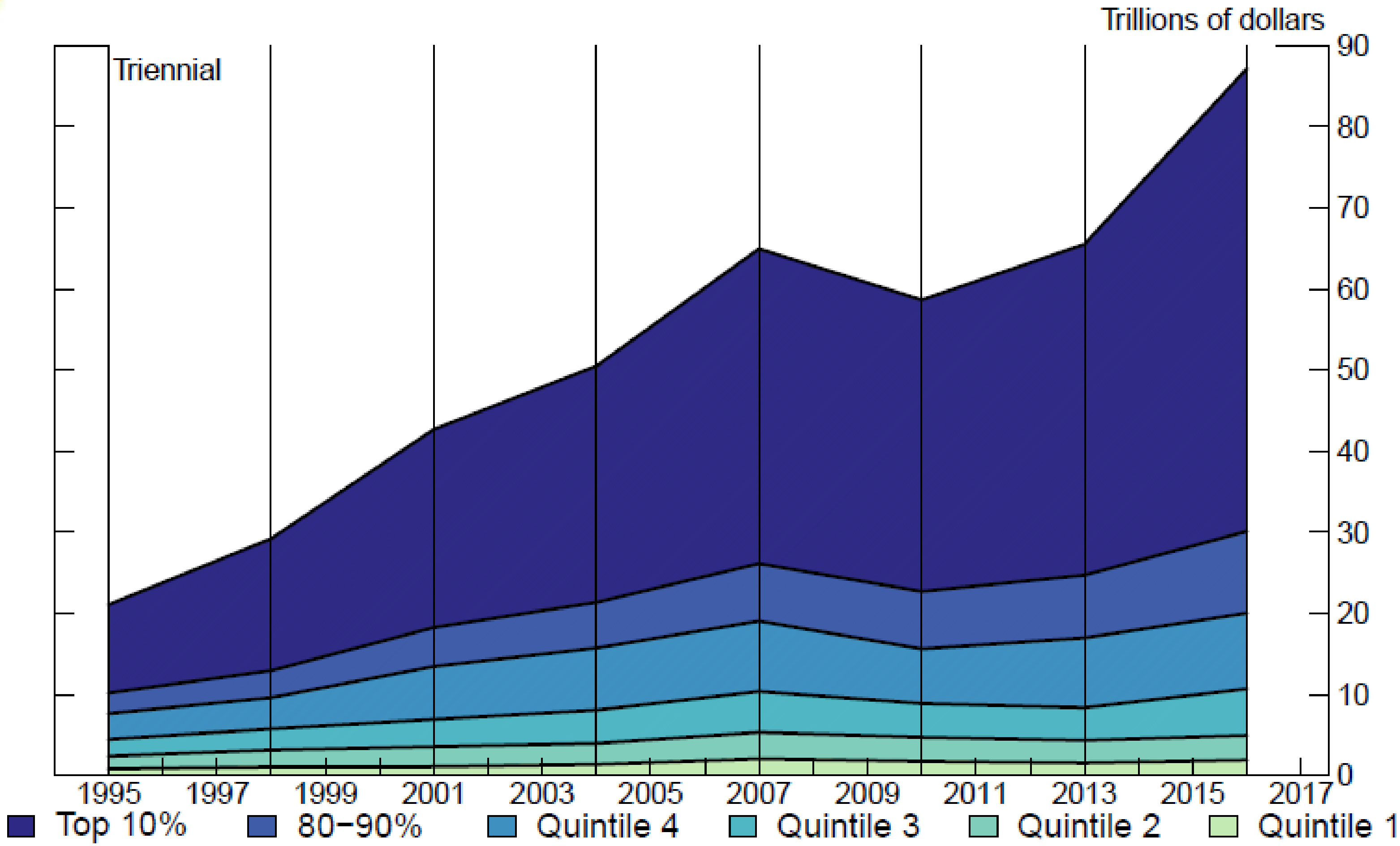
Methodology

DFA: Balance Sheet by Quintile, 2016

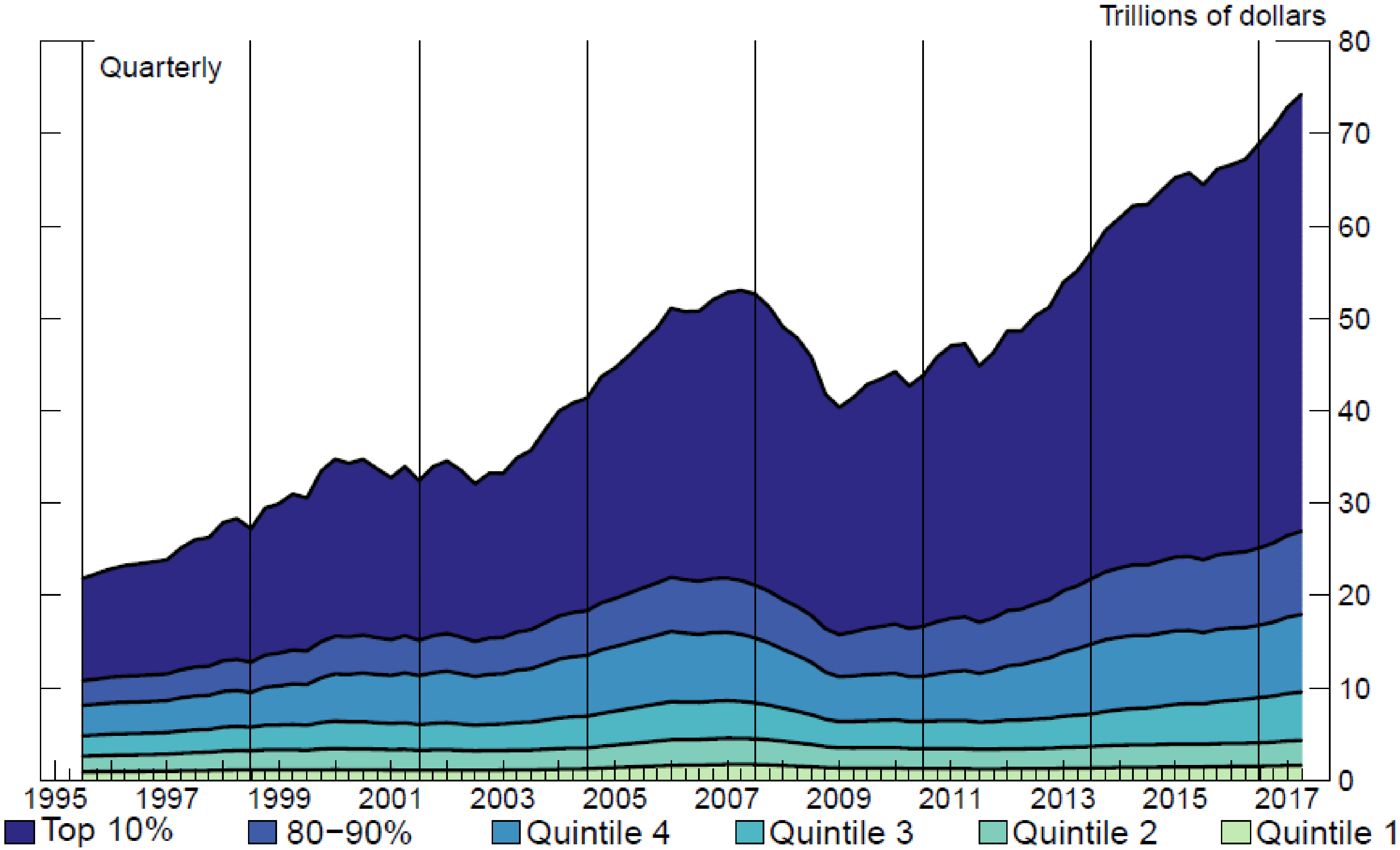
Billions of dollars

	Assets	Liabilities	Net Worth
Quintile 1	2,049.1	539.4	1,509.7
Quintile 2	3,595.9	1,059.2	2,536.7
Quintile 3	6,776.2	1,891.3	4,884.9
Quintile 4	11,056.3	3,218.8	7,837.5
Quintile 5	59,754.6	7,540.3	52,214.3
Of which: top 10%	48,804.9	4,973.9	43,831.1
DFA Total	**83,232.1**	**14,248.9**	**68,983.2**

SCF Net Worth by Income Quantile

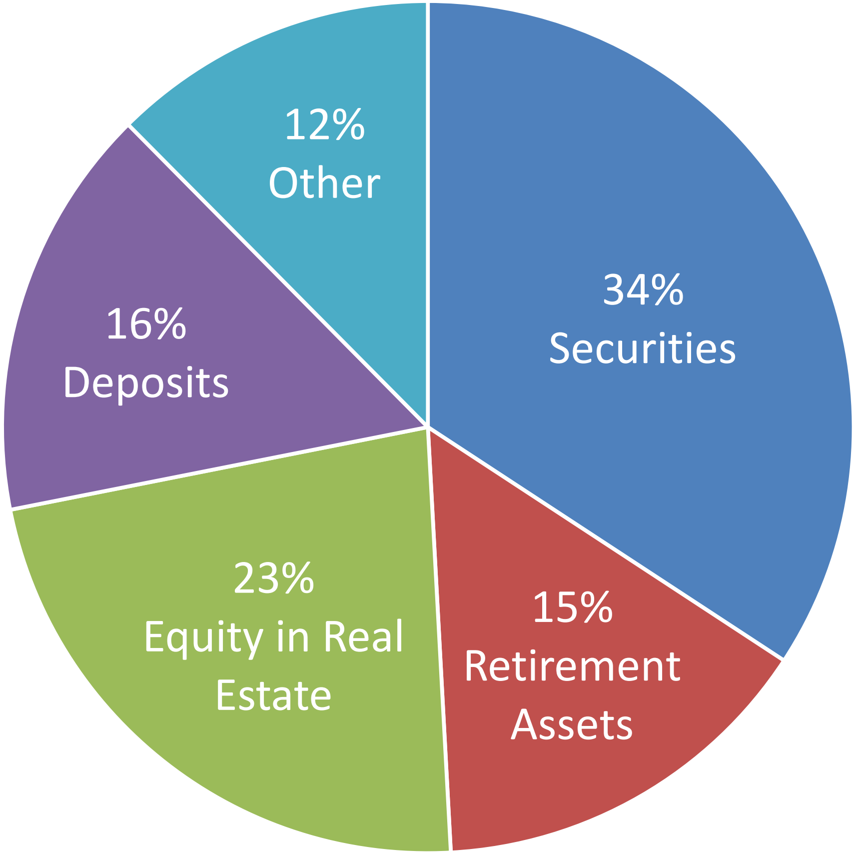


DFA: Net Worth by Income Quantile



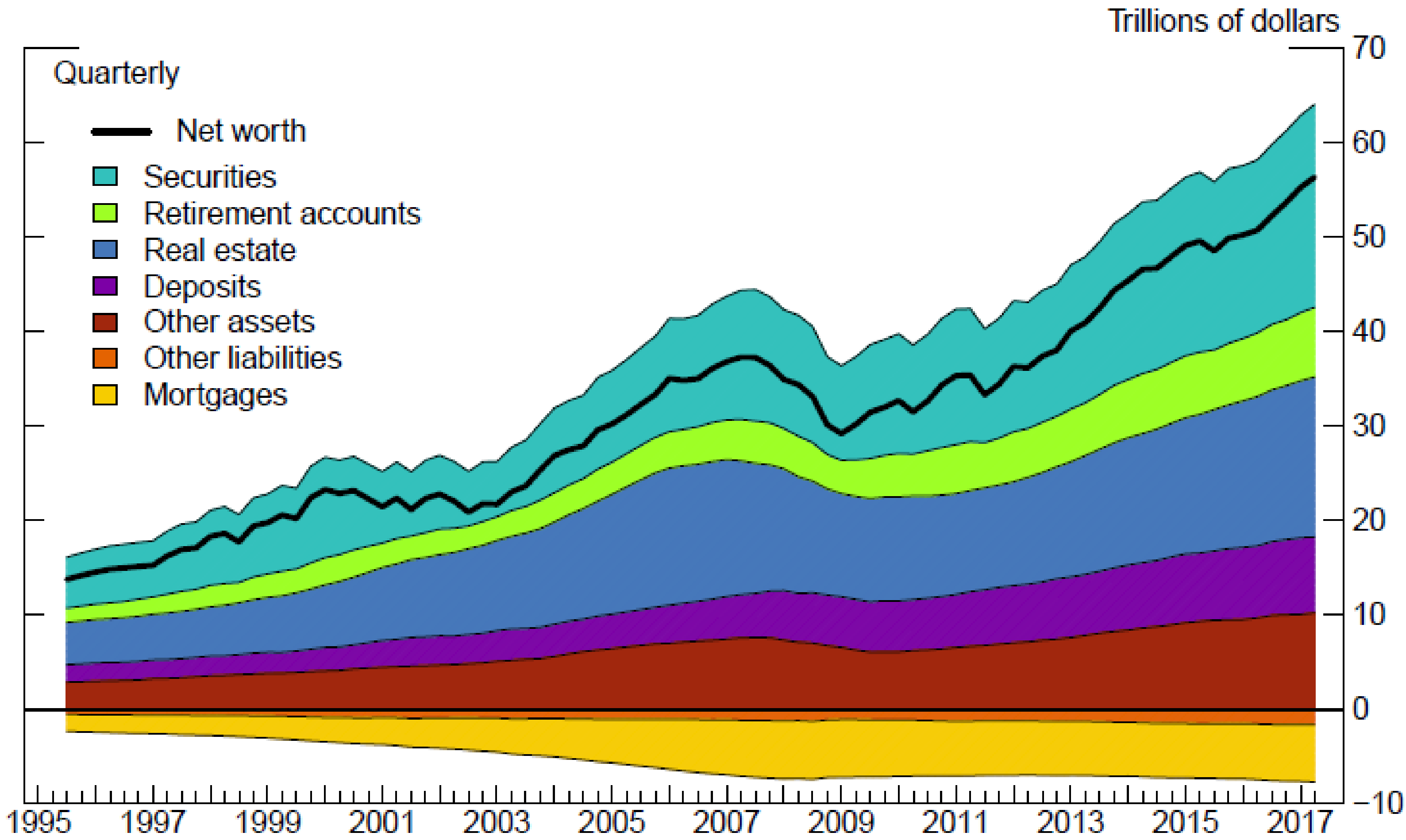
Change in Household Net Worth: 1995:Q3 – 2017:Q2

	1995: Q3	2017 :Q2	Change	Percent Increase
Securities	6.7	24.6	17.9	267%
Retirement assets	2.3	10.1	7.8	339%
Equity in real estate	6.0	17.9	11.9	198%
Deposits	3.4	11.6	8.2	241%
Other	3.6	10.1	6.5	181%
Net worth	**22.0**	**74.3**	**52.3**	**231%**

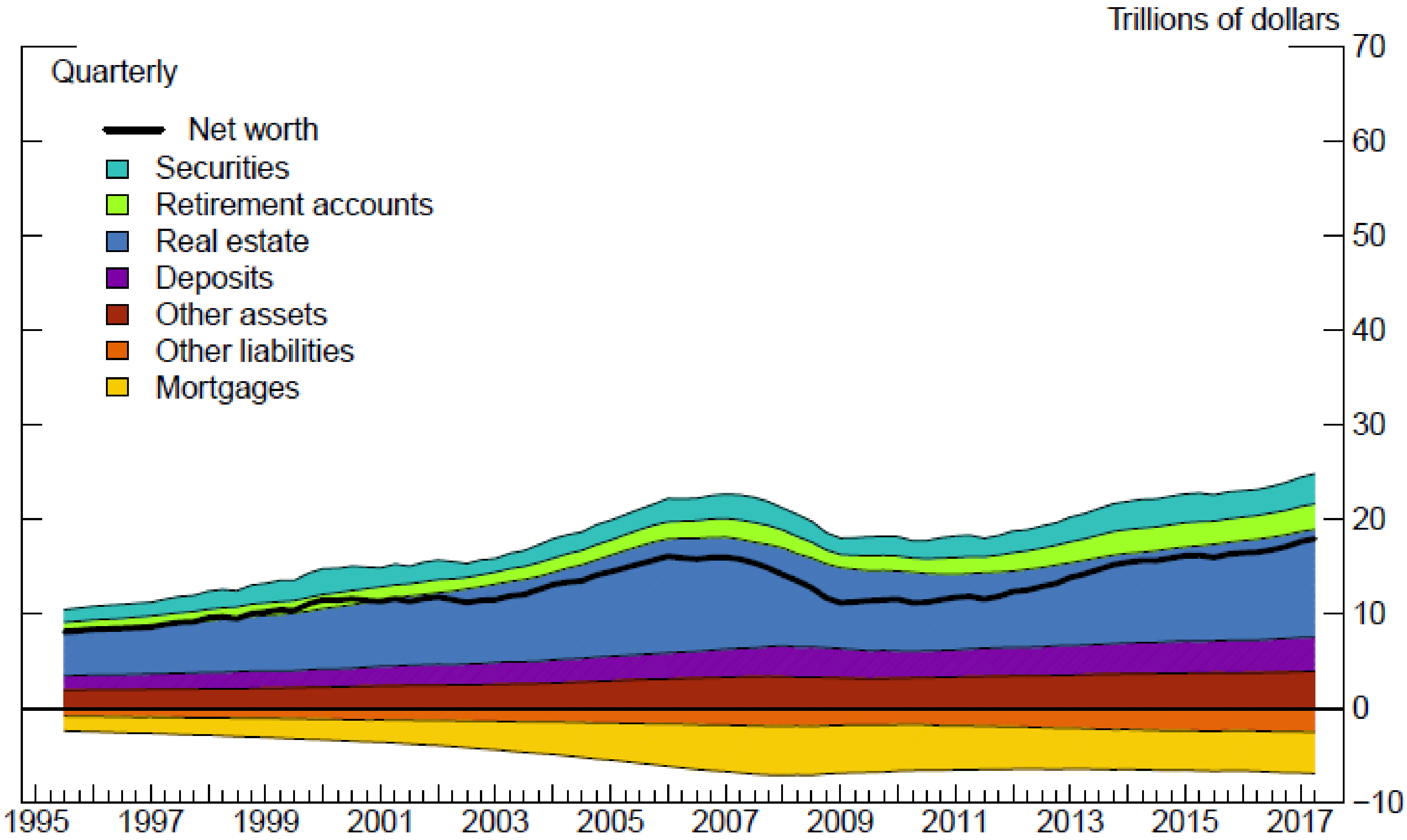


Note: Units are trillions of dollars. The "other" category is unidentified assets net of consumer credit and other liabilities.

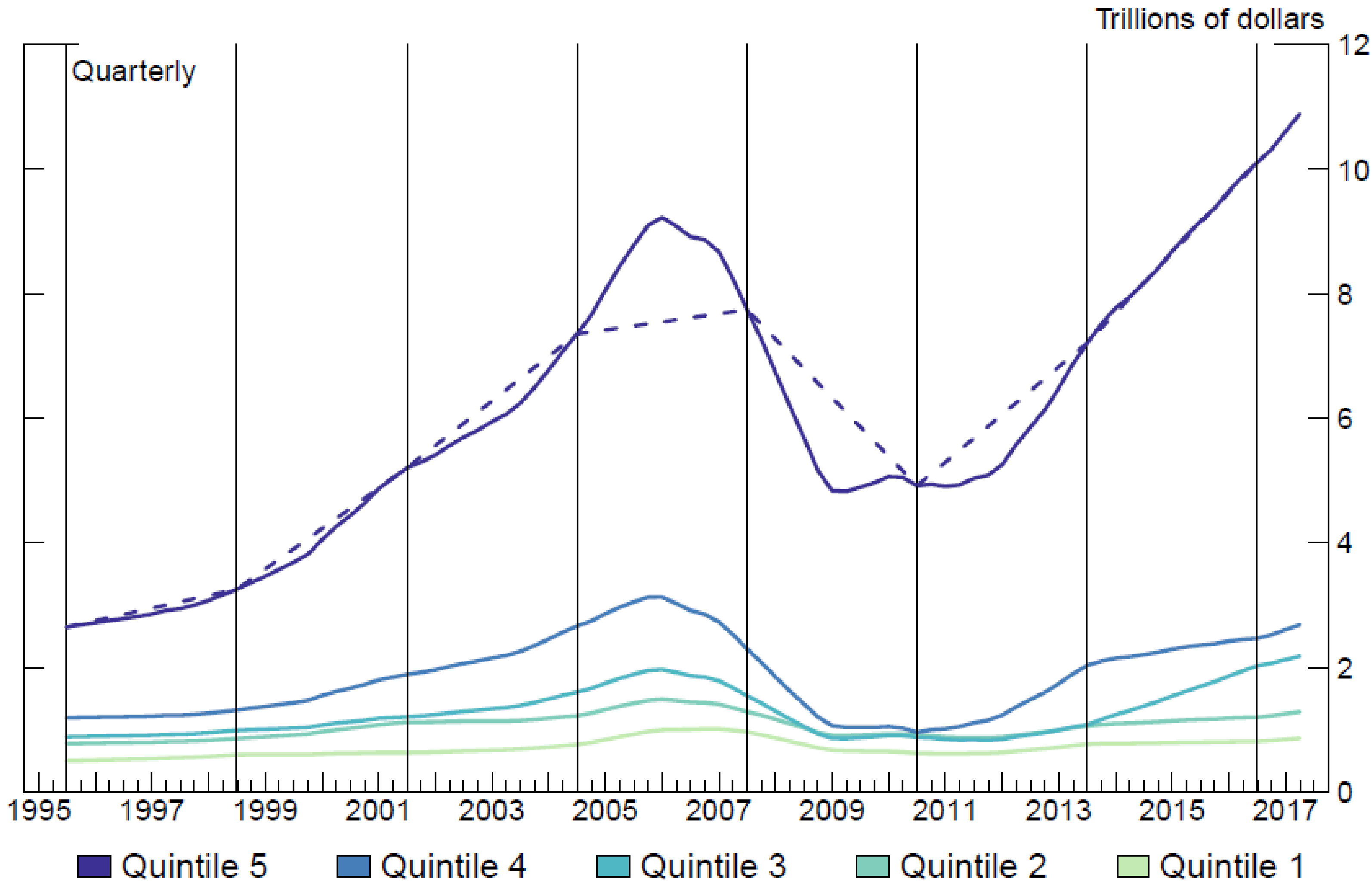
Balance Sheet of Income Quintile 5



Balance Sheet of Income Quintiles 1 through 4

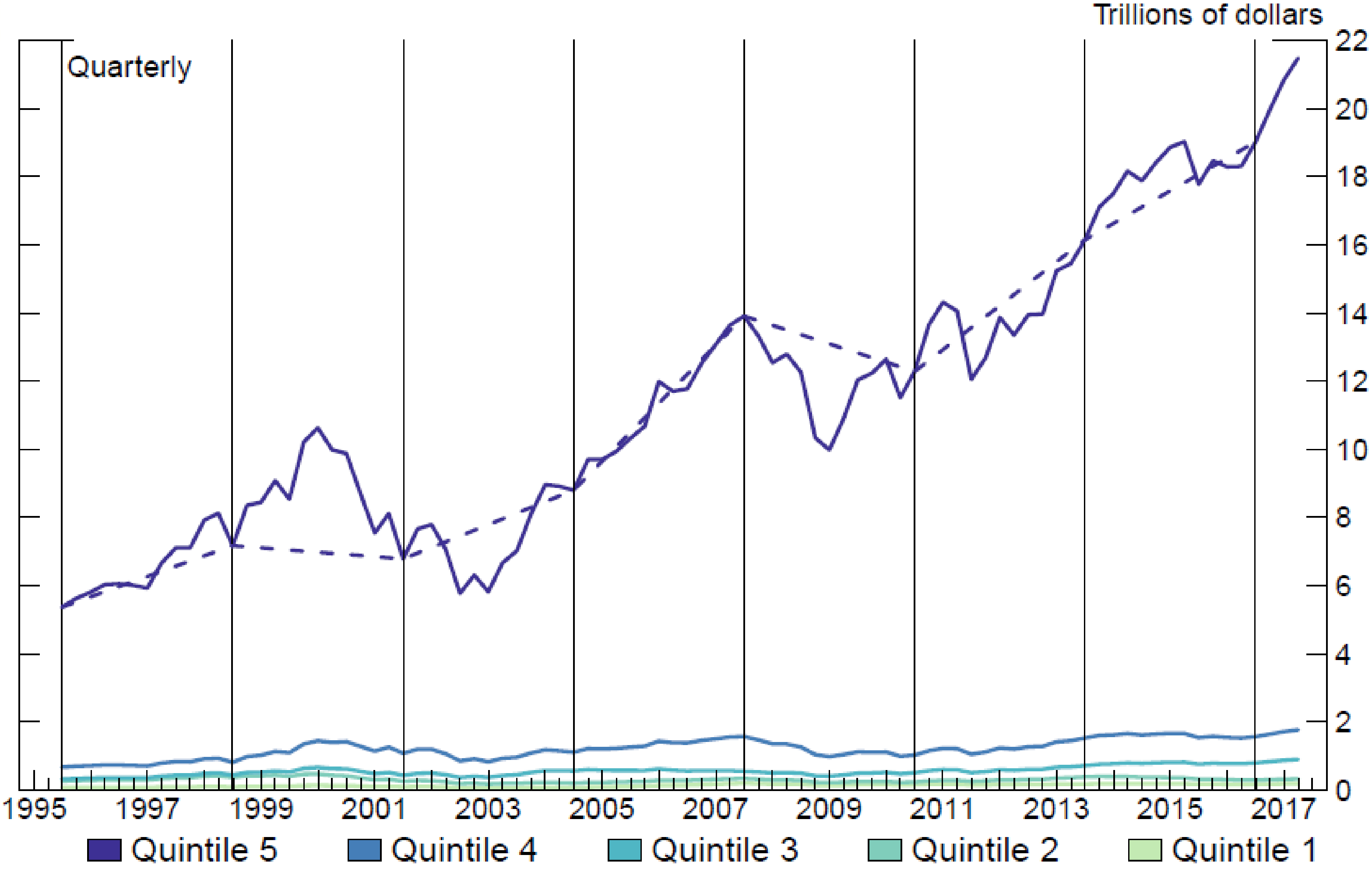


Equity in Real Estate by Income Quintile



Note: Equity in real estate is calculated as the market value of real estate holdings less mortgages.

Security Holdings by Income Quintile



Note: Securities include corporate equities, mutual fund shares, and bonds.

Next Steps

- Address remaining inconsistencies between the two data sets, such as defined benefit pension plans
- Investigate adapting this method to look at the effect of wealth shocks on consumption
- Consider splitting groups by different variables such as level of education, age, and geographic region

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