

“Household Wealth Trends in the US,
1962-2013: What Happened over the
Great Recession?”

DIW Berlin

Edward N. Wolff

October 31, 2014

- I would like to express my appreciation for financial support provided by the Institute of New Economic thinking (INET).

The Great Recession, 2007-2013

- 1. 2007-2010: Housing prices fall by 24% in real terms.
- 2. 2007-2010: Stock prices down by 26% in real terms.
- 3. 2010-2013: Housing prices rise by 7.7% in real terms.
- 4. 2010-2013: Stock prices rise by 39% in real terms.

What Is Wealth?

- My Standard Definition. Assets:
- (1) the gross value of owner-occupied housing.
- (2) other real estate owned by the household.
- (3) cash and demand deposits.
- (4) time and savings deposits, certificates of deposit, and money market accounts;

What Is Wealth (cont.)?

- (5) government bonds, corporate bonds, foreign bonds, and other financial securities.
- (6) the cash surrender value of life insurance plans.
- (7) the cash surrender value of pension plans, including IRAs, Keogh, and 401(k) plans.

What Is Wealth (cont.)?

- (8) corporate stock and mutual funds.
- (9) net equity in unincorporated businesses.
- and (10) equity in trust funds.
- Total liabilities are the sum of.
 - (1) mortgage debt.
 - (2) consumer debt, including auto loans.
 - and (3) other debt, including educational loans.

What Is Wealth (cont.)?

- NOT INCLUDED:
- 1. Value of vehicles (standard FRB tables INCLUDE this).
- 2. Other consumer durables.
- 3. The value of future social security benefits the family may receive upon retirement (usually referred to as "social security wealth"), as well as the value of retirement benefits from private pension plans ("pension wealth").

Sources of Wealth Data

- 1. 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, 2010, and 2013 Survey of Consumer Finances (SCF) conducted by the Federal Reserve Board.
- 2. Each survey consists of a core representative sample combined with a high-income supplement.

Sources of Wealth Data (cont.)

- 3. In 1983, for example, the supplement was drawn from the Internal Revenue Service's Statistics of Income data file. For the 1983 SCF, an income cut-off of \$100,000 of adjusted gross income was used as the criterion for inclusion in the supplemental sample.

Sources of Wealth Data (cont.)

- 4. In later years, the high income supplement was selected as a list sample from statistical records (the Individual Tax File) derived from tax data by the Statistics of Income Division of the Internal Revenue Service (SOI). This second sample was designed to disproportionately select families that were likely to be relatively wealthy.

Sources of Wealth Data (cont.)

- 5. The advantage of the high-income supplement is that it provides a much "richer" sample of high income and therefore potentially very wealthy families. However, the presence of a high-income supplement creates some complications, because weights must be constructed to meld the high-income supplement with the core sample. Typically, about two thirds of the cases come from the representative sample and one third from the high-income supplement. In the 2007 SCF the standard multi-stage area-probability sample contributed 2,915 cases while the high-income supplement contributed another 1,507 cases.

Selected Data Results.

- 1. Trends in Mean and Median Wealth
- 2. Inequality of Wealth
- 3. Composition of Wealth
- 4. The Effects of Leverage
- 5. Racial / Ethnic Wealth Differences
- 6. Wealth Differences by Age Group

Figure 1. Mean and Median Net Worth, 1962-2013

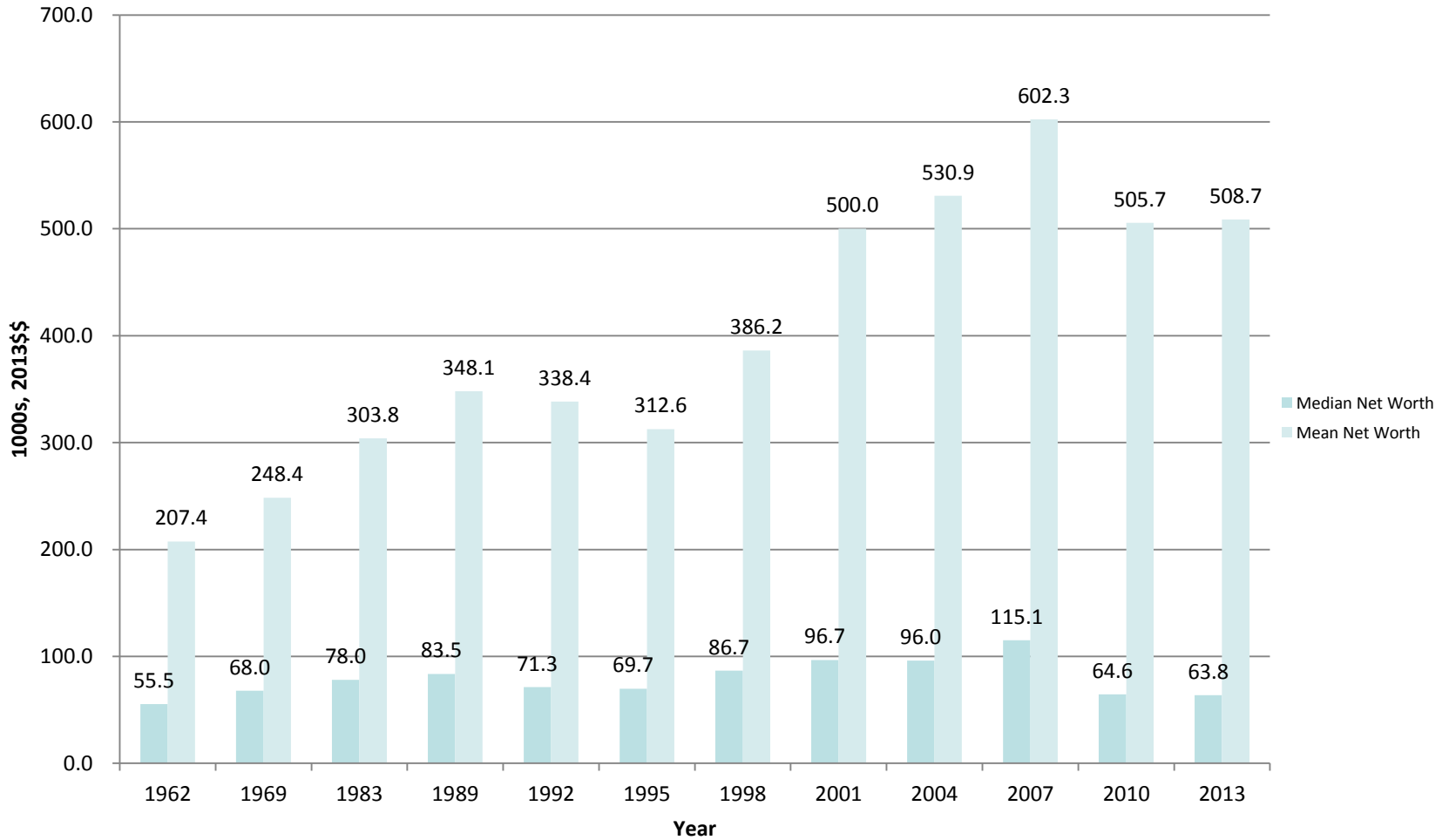


Figure 4. Mean and Median Household Income, 1962-2013

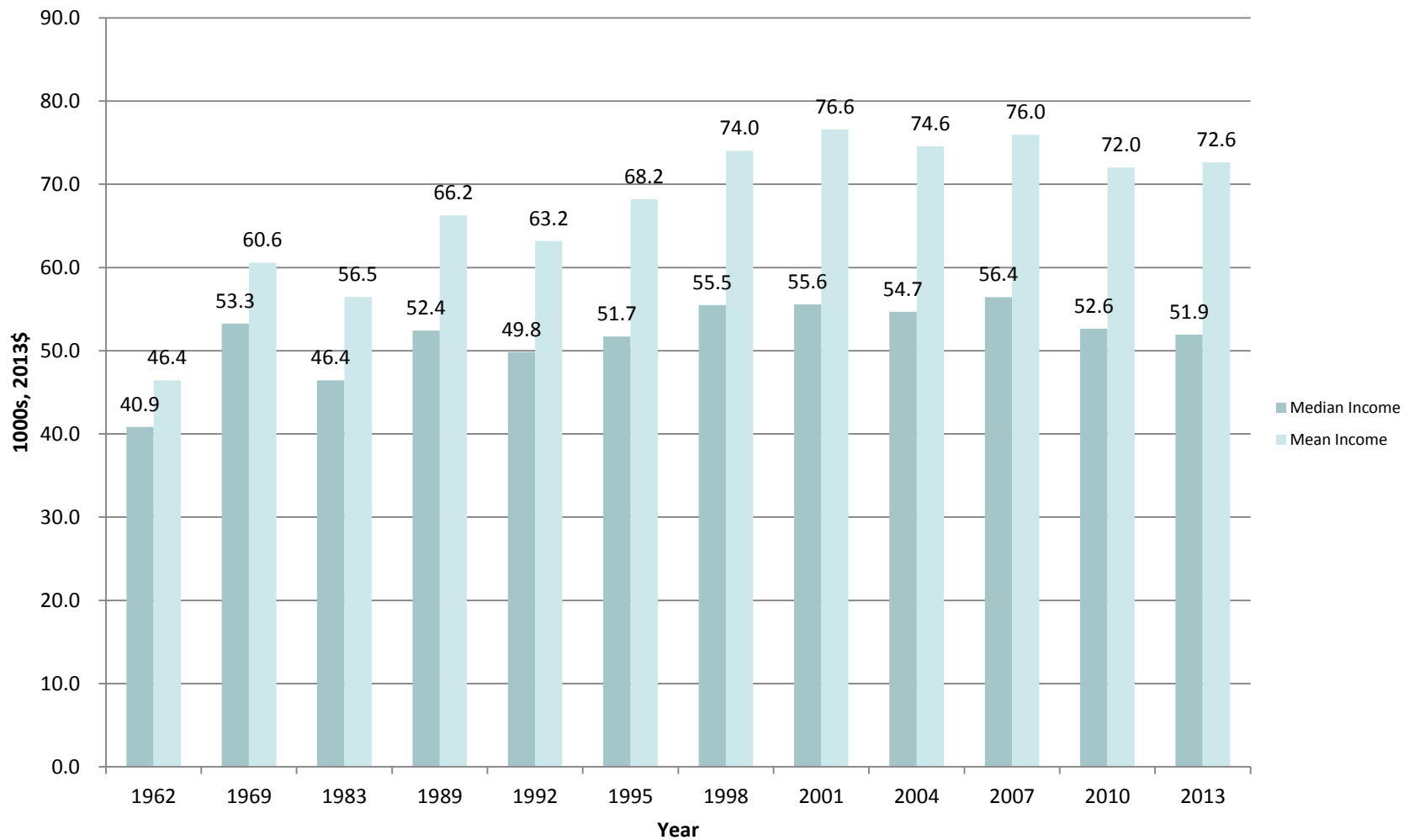


Table 1. Wealth and Income Trends, 1983-2007
(1000s, 2013\$)

				% Chng	% Chng	% Chng
	<u>1983</u>	<u>2001</u>	<u>2007</u>	<u>1983- 2001</u>	<u>2001- 2007</u>	<u>1983- 2007</u>
Median NW	78.0	96.7	115.1	23.9	19.1	47.5
Mean NW	303.8	500.0	602.3	64.6	20.4	98.2
Median Income	46.4	55.6	56.4	19.7	1.6	21.6

Table 1. Wealth and Income Trends, 2007-2013
(1000s, 2013\$)

	<u>2007</u>	<u>2010</u>	<u>2013</u>	% Chng	% Chng	% Chng
	<u>2007</u>	<u>2010</u>	<u>2013</u>	<u>2007-</u> <u>2010</u>	<u>2010-</u> <u>2013</u>	<u>2007-</u> <u>2013</u>
Median NW	115.1	64.6	63.8	-43.9	-1.2	-44.6
Mean NW	602.3	505.7	508.7	-16.0	0.6	-15.5
Median Income	56.4	52.6	51.9	-6.7	-1.3	-8.0

Figure 2. Percent of Households with Zero or Negative Net Worth, 1962-2013

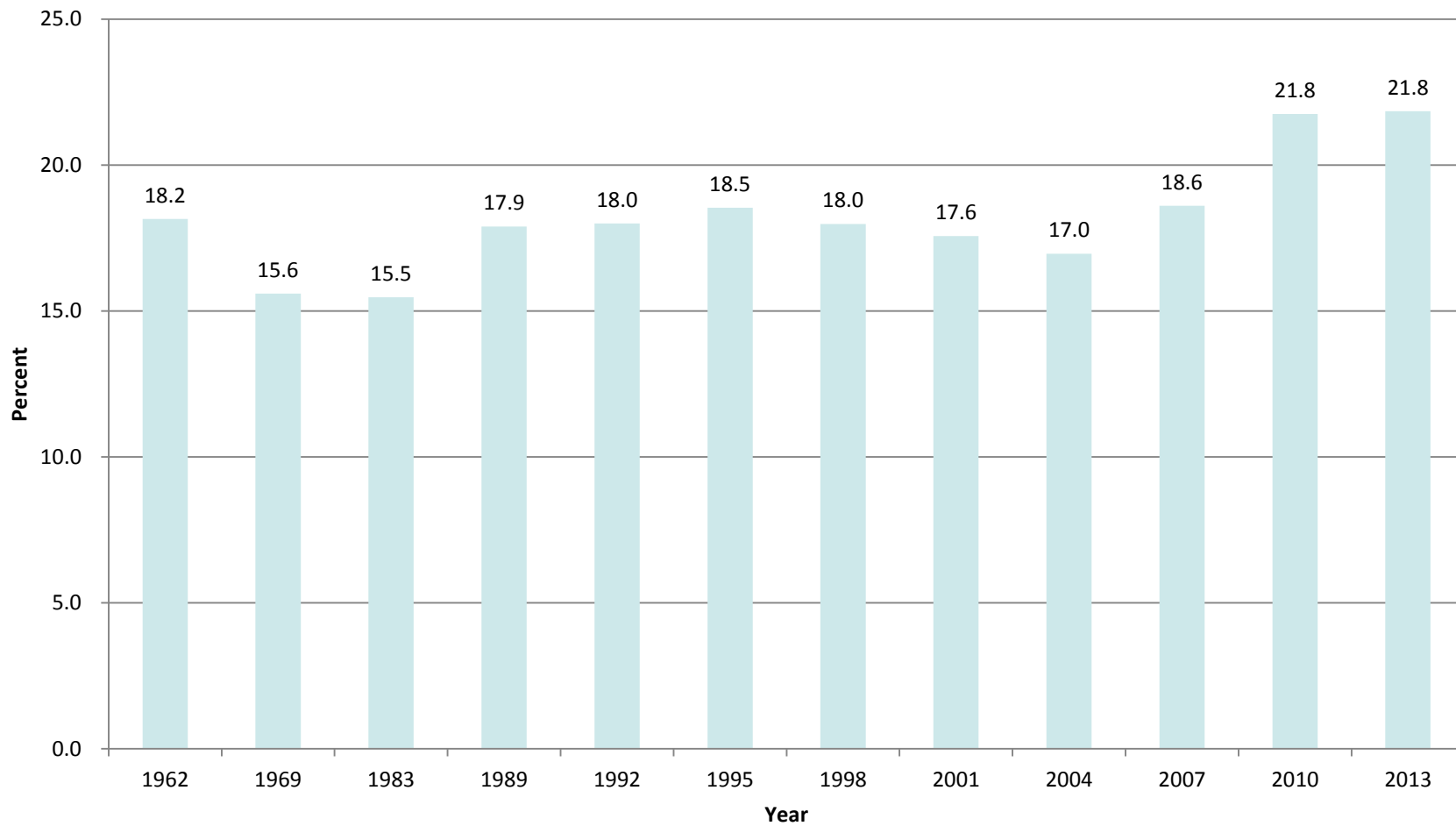


Figure 5 Wealth and Income Inequality, 1962-2013 (Gini coefficients)

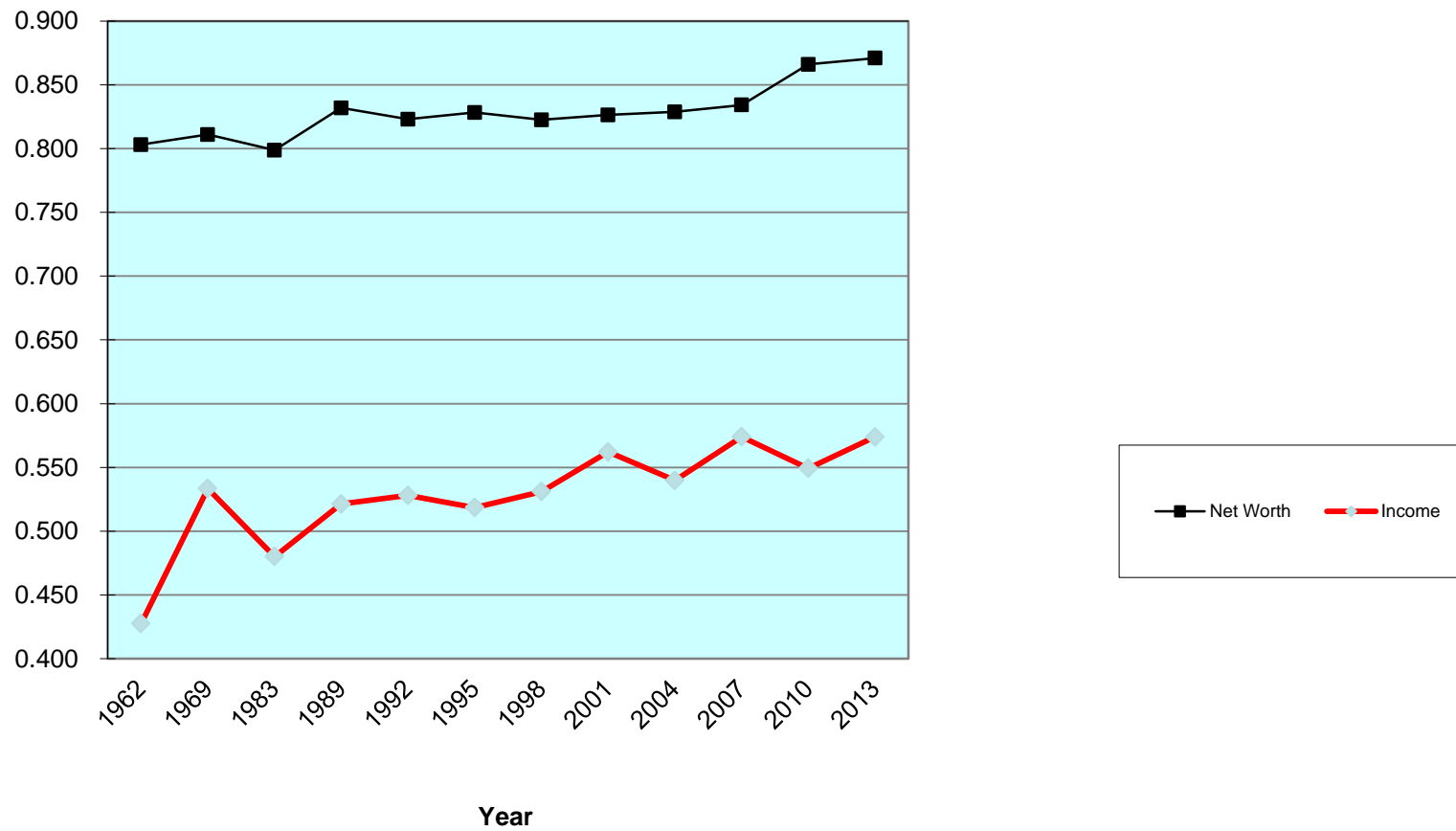


Table 2. Wealth Inequality Trends, 2007-2010

<u>NW Shares</u>	<u>2007</u>	<u>2010</u>	<u>Change</u>
Top 20%	85.0	88.6	3.6
Next 20%	10.9	9.5	-1.4
Middle 20%	4.0	2.7	-1.3
Bottom 40%	0.2	-0.8	-1.0
Gini Coeff.	0.834	0.866	0.032

Table 2. Wealth Inequality Trends, 2010-2013

<u>NW Shares</u>	<u>2010</u>	<u>2013</u>	<u>Change</u>
Top 20%	88.6	88.9	0.3
Next 20%	9.5	9.3	-0.2
Middle 20%	2.7	2.7	0.0
Bottom 40%	-0.8	-0.9	-0.1
Gini Coeff.	0.866	0.871	0.005

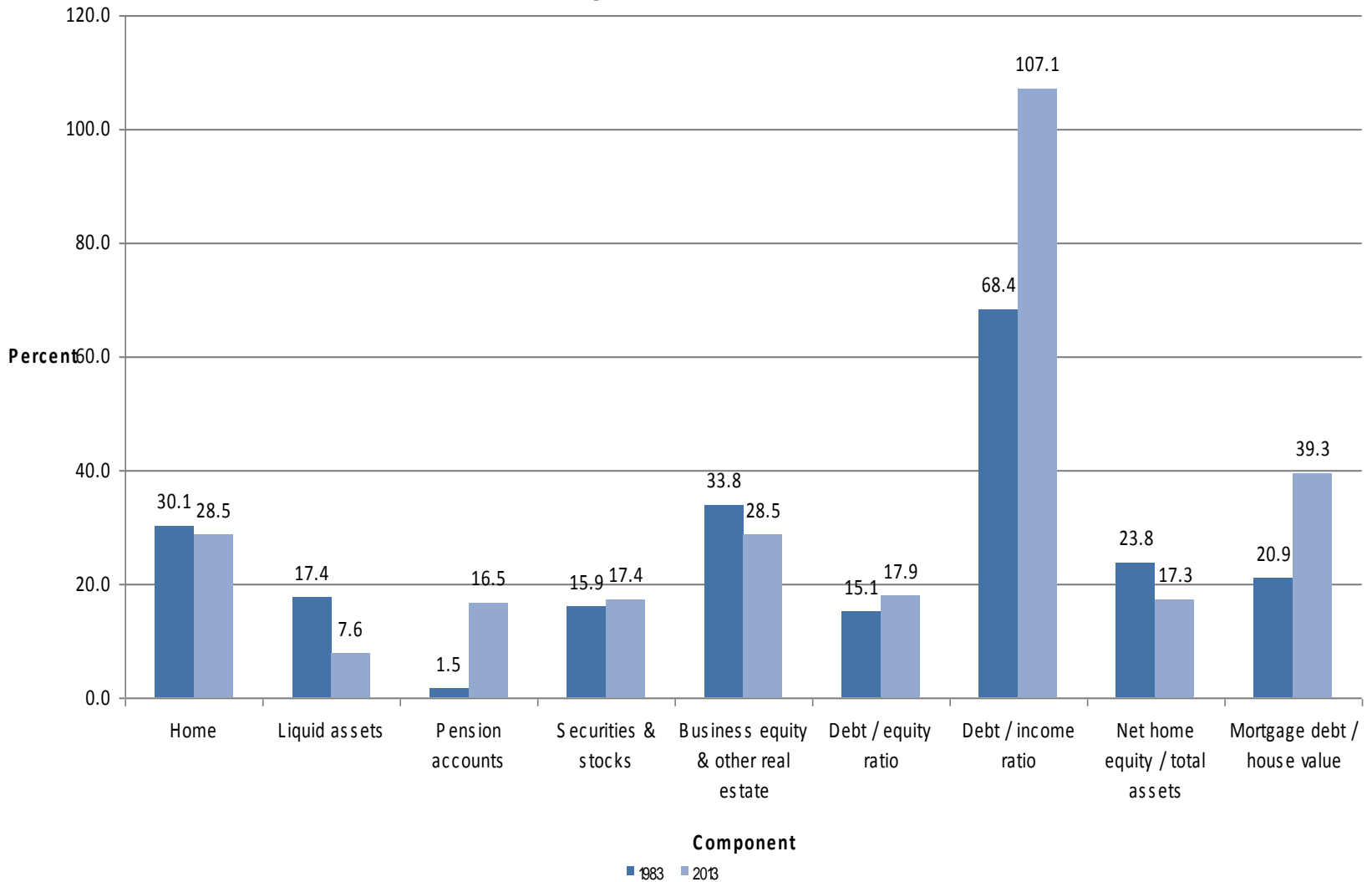
Table 3. Income Inequality Trends, 2006-2009

<u>Income Shares</u>	<u>2006</u>	<u>2009</u>	<u>Change</u>
Top 20%	61.4	59.1	-2.3
Next 20%	17.8	18.7	0.9
Middle 20%	11.1	14.9	3.8
Bottom 40%	9.6	7.3	-2.3
Gini Coeff.	0.574	0.549	-0.025

Table 3. Income Inequality Trends, 2009-2012

<u>Income Shares</u>	<u>2009</u>	<u>2012</u>	<u>Change</u>
Top 20%	59.1	61.8	2.7
Next 20%	18.7	17.8	-0.9
Middle 20%	14.9	11.1	-3.8
Bottom 40%	7.3	9.4	2.1
Gini Coeff.	0.549	0.574	0.025

Figure 7 Composition of Household Wealth, 1983 and 2013 (percent of gross assets)



**Figure 8. Composition of Household Wealth by Wealth Class, 2013
(percent of gross assets)**

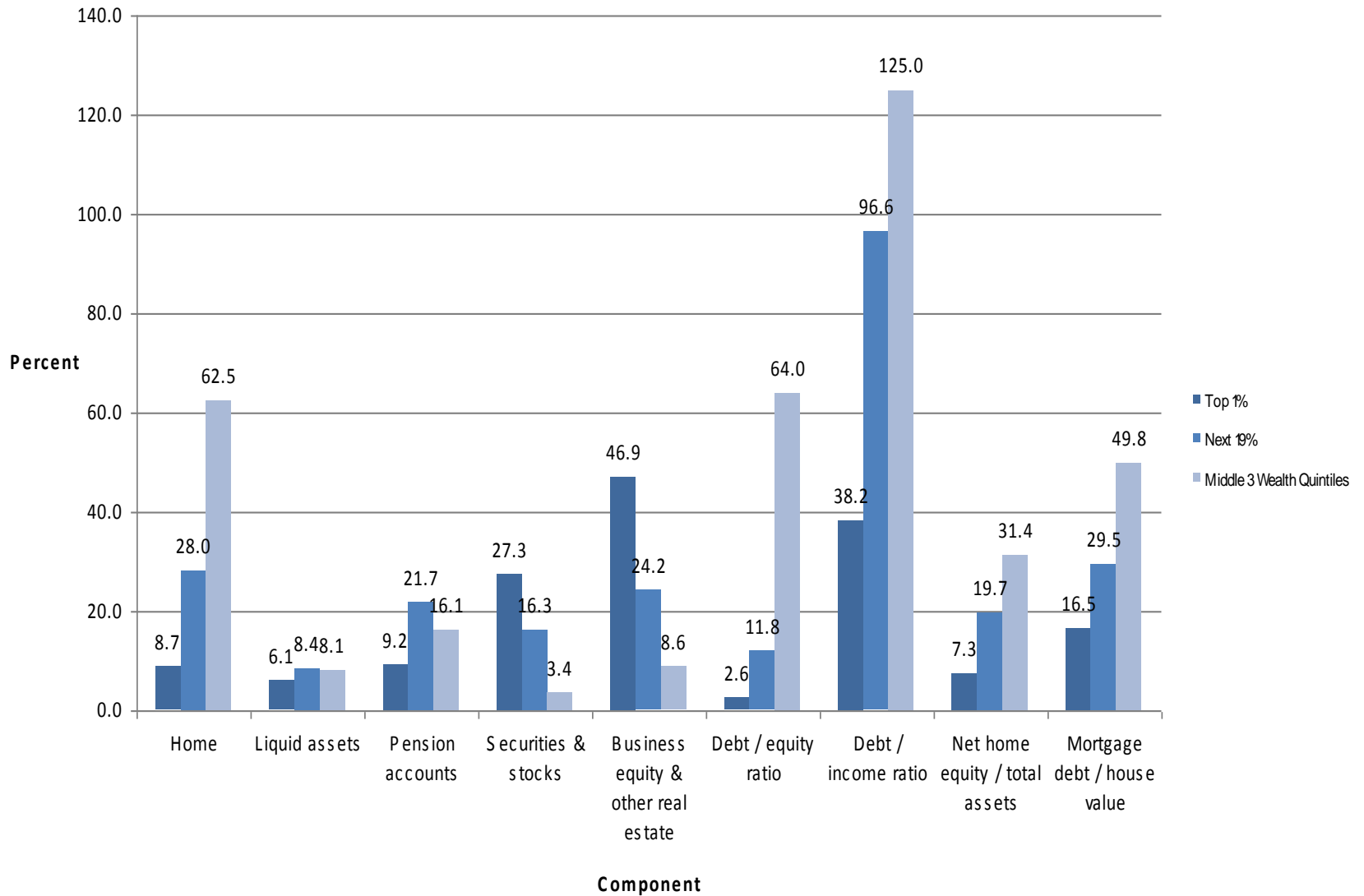


Table 6. Composition of Wealth of Middle 3 Wealth Quintiles, 2007, 2010 and 2013

<u>Ratio</u> (percent)	<u>2007</u>	<u>2010</u>	<u>2013</u>
Debt/Equity	37.4	61.1	64.0
Debt/Income	66.9	156.7	125.0
Net Home Equity/Total Assets	43.8	34.8	31.4
Mortgage Debt/House Value	28.8	46.6	49.8

Table 7. Average Debt, All Households, 2007-2013
(1000s, 2013\$)

				% Chng	% Chng	% Chng
	<u>2007</u>	<u>2010</u>	<u>2013</u>	<u>2007-</u> <u>2010</u>	<u>2010-</u> <u>2013</u>	<u>2007-</u> <u>2013</u>
Mortgage Debt	81.4	77.4	67.2	-5.0	-13.1	-17.4
Other Debt	27.7	27.0	23.9	-2.6	-11.3	-13.5
Total Debt	109.1	104.3	91.1	-4.4	-12.6	-16.4

Table 8. Asset Ownership Rates, All Households, 2010 and 2013 (percent)

<u>Asset</u>	<u>2010</u>	<u>2013</u>	<u>Change</u>
Homes	67.2	65.1	-2.1
Pension Accounts	50.4	49.2	-1.2
Businesses	12.1	10.4	-1.7
Total Stocks	46.9	46.1	-0.8

The “Wealth Equation”

- A regression was run of a wealth inequality index, measured by the share of marketable wealth held by the top one percent of households (WLTH) on income inequality, measured by the share of income received by the top five percent of families (INC), and the ratio of stock prices (the Standard and Poor index) to housing prices (RATIO), with 21 data points between 1922 and 1998. It yields:



- $$(1) \quad \text{WLTH} = 5.10 + 1.27 \text{ INC} + 0.26 \text{ RATIO}, \quad R^2 = 0.64, \quad N = 21$$
- $$\quad \quad \quad (0.9) \quad \quad (4.2) \quad \quad (2.5)$$



- with t-ratios shown in parentheses. Both variables are statistically significant (INC at the 1 percent level and RATIO at the 5 percent level) and with the expected (positive) sign. Also, the fit is quite good, even for this simple model.

Six Puzzles

- 1. Why median wealth surged from 2001-2007 while median income was sluggish.
- 2. Why wealth inequality was flat from 2001-2007 when income inequality grew.
- 3. Why median wealth was down so much from 2007-2010 – much more than median income and more than housing prices.

Six Puzzles (cont.)

- 4. Why wealth inequality spiked from 2007-2010 even though income inequality was down and stock and housing prices declined at about the same rate.
- 5. Why median and mean wealth was flat from 2010-2013 when asset prices recovered.

Six Puzzles (cont.)

- 6. Why did wealth inequality increase so moderately from 2010 to 2013 when income inequality shot up and the stock/house price ratio rose from 66 to 85.
- Answer to the first four: leverage
- Answer to the fifth: ownership rates declined.
- Answer to the sixth: leverage

Effects of Leverage: Arithmetic

Example 1a

	<u>Year 1</u>	<u>Year 2</u>	<u>% Change</u>
Assets	50	60	
Debt	0	0	
Net Worth	50	60	20
% Increase in Asset Prices			20

Effects of Leverage: Arithmetic

Example 1b

	<u>Year 1</u>	<u>Year 2</u>	<u>% Change</u>
Assets	50	60	
Debt	40	40	
Net Worth	10	20	100
% Increase in Asset Prices			20

Effects of Differential Leverage: Arithmetic

Example 2a

<u>The Rich</u>	<u>Year 1</u>	<u>Year 2</u>	<u>% Change</u>
Stocks	50	40	
Other Assets	50	50	
Debt	0	0	
Net Worth	100	90	-10
% Change in Stock Prices			-20

Effects of Differential Leverage: Arithmetic

Example 2b

<u>The Middle Class</u>	<u>Year 1</u>	<u>Year 2</u>	<u>% Change</u>
Housing	60	48	
Other Assets	10	10	
Debt	30	30	
Net Worth	40	28	-30
% Change in House Prices			-20

Table 11. Average Annual Rates of Return by Period and Wealth Class, 1983 - 2013 (percentage)

	1983 1989	1989- 2001	2001- 2007	2007- 2010	2010- 2013	1983- 2013
<u>A. Gross Assets</u>						
1. All Households	2.20	3.25	3.34	-6.38	4.83	2.25
2. Top 1 Percent	3.00	3.88	3.86	-6.37	5.91	2.88
3. Next 19 Percent	2.17	3.33	3.19	-6.07	4.77	2.28
4. Middle 3 Quintiles	1.21	2.23	2.95	-7.06	3.27	1.35
<u>B. Net Worth</u>						
1. All Households	3.17	4.25	4.31	-7.28	6.19	3.09
2. Top 1 Percent	3.38	4.15	4.03	-6.52	6.16	3.10
3. Next 19 Percent	2.82	3.97	3.80	-6.62	5.66	2.82
4. Middle 3 Quintiles	3.15	4.55	5.95	-10.6	6.94	3.28
<u>Memo: difference between top 1% and middle quintiles</u>	-0.2	0.40	1.92	-4.03	0.78	0.17

Figure 11. Ratio of Mean Net Worth between Racial and Ethnic Groups, 1983-2013

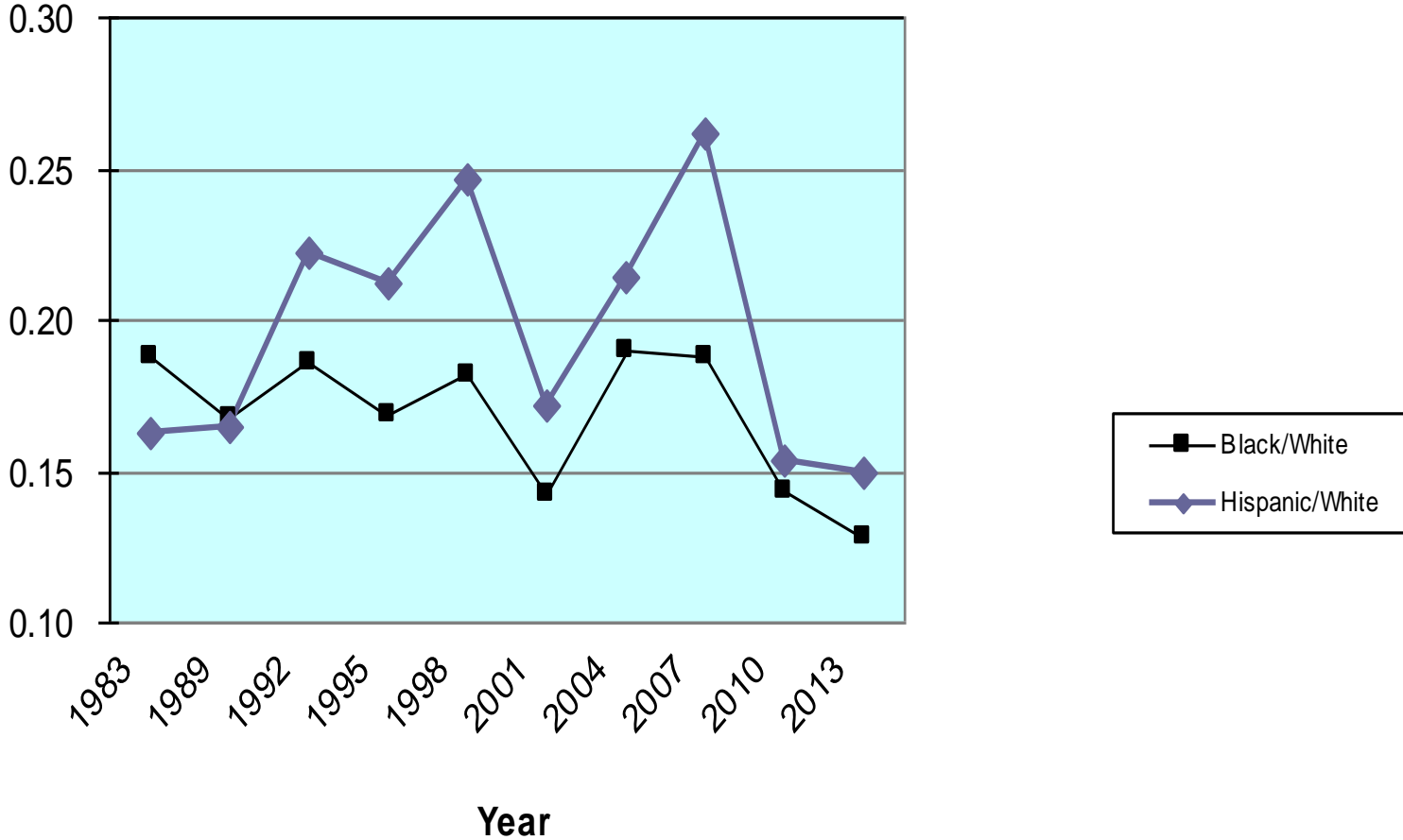


Table 12. Ratios of NW, Income, and Home Ownership between Blacks and Whites

	<u>Mean NW</u>	<u>Median NW</u>	<u>Median Income</u>	<u>Home Ownership Rate</u>
2001	0.14	0.10	0.57	0.64
2007	0.19	0.06	0.60	0.65
2010	0.14	0.05	0.59	0.64
2013	0.13	0.01	0.56	0.60

Table 13. Ratios of NW, Income, and Homes between Hispanics and (Non-Hisp.) Whites

	<u>Mean NW</u>	<u>Median NW</u>	<u>Median Income</u>	<u>Home Ownership Rate</u>
2001	0.17	0.03	0.55	0.60
2007	0.26	0.06	0.70	0.66
2010	0.15	0.01	0.67	0.63
2013	0.15	0.02	0.59	0.60

Table 14. Composition of Household Wealth by Race and Ethnicity, 2007
(Percent of gross assets)

Asset	Non-Hispanic Whites	African-Americans	Hispanics
Principal residence	30.8	54.0	52.5
Liquid assets (bank deposits, money market funds, and cash surrender value of life insurance)	6.6	7.6	3.9
Pension accounts	12.5	12.3	7.7
Corporate stock, financial securities, mutual funds, and personal trusts	17.1	3.4	2.5
Unincorporated business equity other real estate	31.3	20.9	32.9
<u>Memo (selected ratios in percent):</u>			
Debt / equity ratio	15.4	55.3	51.1
Debt / income ratio	109.0	152.2	187.9
Net home equity / total assets	20.8	27.3	28.8
Principal residence debt / house value	32.4	49.4	45.2
All stocks / total assets	18.3	5.0	5.1
<u>Annual Rate of Return on Net Worth (in percent)^c</u>			
2001-2007	4.14	6.35	6.74
2007-2010	-7.07	-9.92	-10.76
2010-2013	6.11	7.14	7.47

Figure 12 Ratio of Mean Net Worth of Young Age groups to Overall Mean Net Worth, 1983-2013

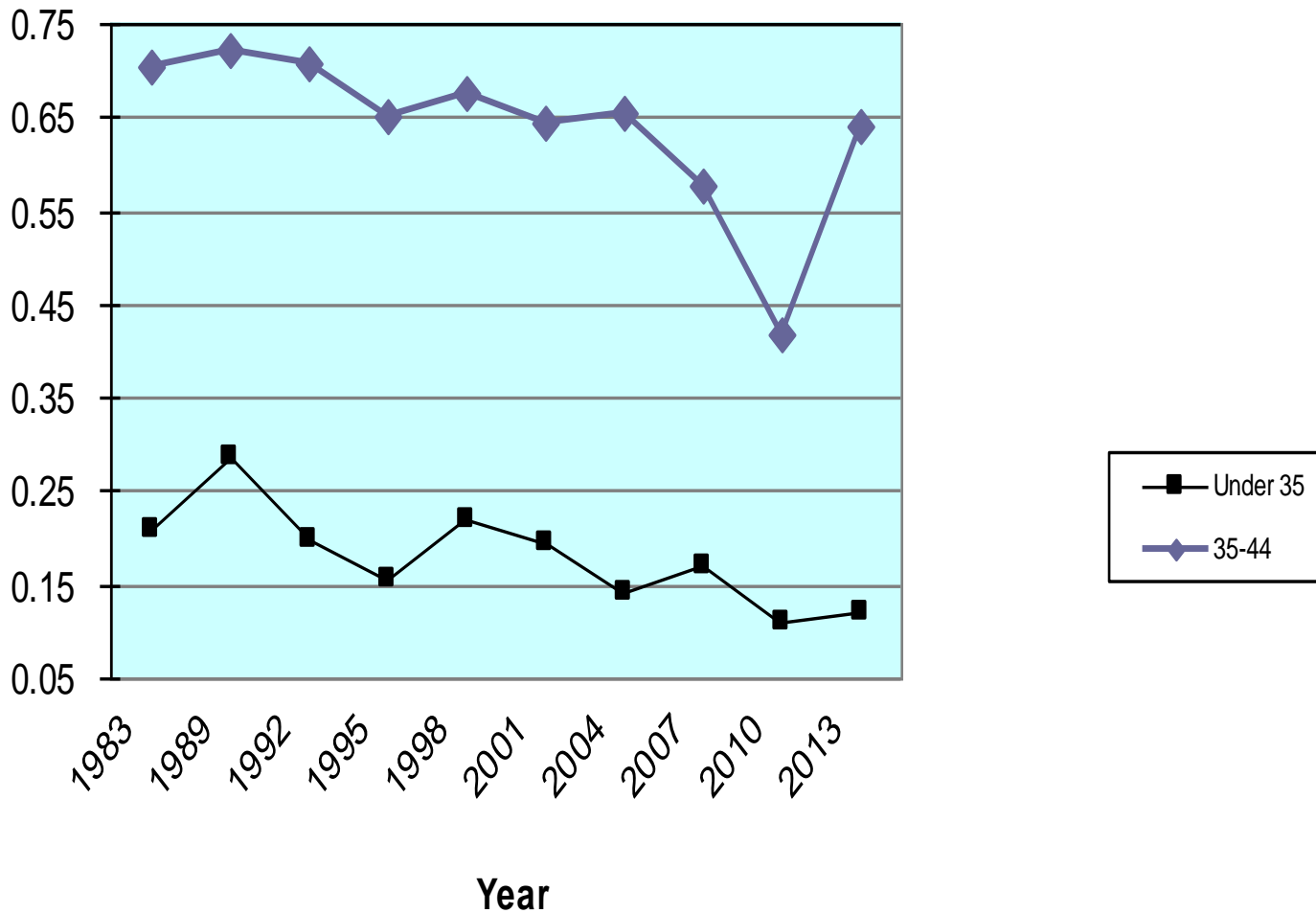
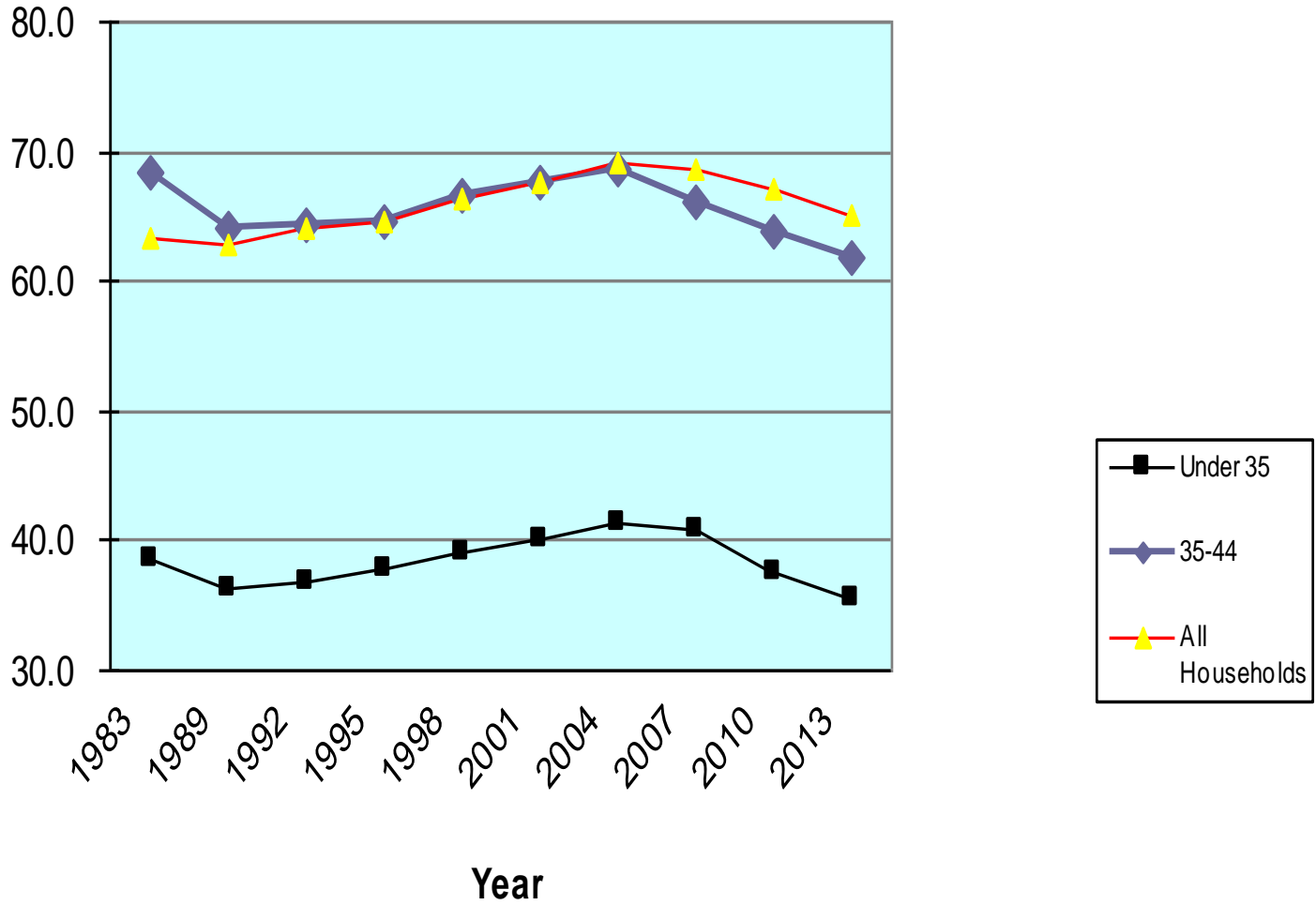


Figure 13 Homeownership Rates for Young Age Groups and All Households, 1983-2013 [percentage]



Portfolio Composition by Age Group
(Percent of gross assets)

Asset	All	Under 35	35-44
Principal residence	32.8	54.3	43.7
Liquid assets (bank deposits, money market funds, and cash surrender value of life insurance)	6.6	5.7	5.4
Pension accounts	12.1	6.0	10.7
Corporate stock, financial securities, mutual funds, and personal trusts	15.5	4.2	8.6
Unincorporated business equity other real estate	31.3	28.7	30.1
<u>Memo (selected ratios in percent):</u>			
Debt / equity ratio	18.1	92.7	41.3
Debt / income ratio	118.7	167.5	156.5
Net home equity / total assets	21.4	18.8	21.3
Principal residence debt / house value	34.9	65.4	51.4
All stocks / total assets	16.8	5.9	11.2
<u>Annual Rate of Return on Net Worth (in percent)^c</u>			
2001-2007	4.31	8.12	5.92
2007-2010	-7.28	-13.49	-9.56
2010-2013	6.19	10.70	7.49

A. Principal Findings for the Great Recession, 2007-2010

- 1. Housing prices fall by 24% in real terms.
- 2. Stock prices down by 26% in real terms.
- 3. Median wealth plummets by 44% in real terms (with vehicles by 38%).
- 4. Mean wealth down by “only” 16%.
- 5. Median income falls by 6.4 percent.
- 6. Mean income down by 5.0 percent.

Principal Findings (cont.)

- 7. Wealth inequality spikes upward: (a) Gini coefficient rises from 0.834 to 0.866.
- (b) Share of top 20 percent up from 85 to 89 percent.
- 8. Income inequality falls: (a) Gini coefficient falls from 0.574 to 0.549.
- (b) Share of top 1% down from 21.3 to 17.2 percent.

Principal Findings (cont.)

- 9. Racial disparity in wealth holdings spikes upward, with the ratio of mean wealth between blacks and whites dropping from 0.19 to 0.14.
- 10. Hispanic families get hammered by the Great Recession, with the ratio of mean wealth plunging from 0.26 to 0.15.

Principal Findings (cont.)

- 11. Young families also get pummeled by the Great Recession, with the ratio of mean wealth between household under age 35 and all households plunging from 0.17 to 0.11, and that between age group 35-44 and all from 0.58 to 0.42.
- 12. Trends are explained by leverage and differential leverage between groups.

B. Principal Findings for the Great Recession, 2010-2013

- 1. Housing prices increase by 7.7% in real terms.
- 2. Stock prices up by 39% in real terms.
- 3. Mean and median wealth essentially unchanged.
- 4. Median income falls by 1.3 percent.
- 5. Mean income up by 0.9 percent.

Principal Findings (cont.)

- 6. Wealth inequality rises somewhat: (a) Gini coefficient rises from 0.866 to 0.871.
- (b) Share of top 20 percent up slightly from 89.6 to 88.9 percent.
- 7. Income inequality up sharply: (a) Gini coefficient falls from 0.549 to 0.574.
- (b) Share of top 1% up from 17.2 to 19.8 percent.

Principal Findings (cont.)

- 8. Racial disparity in wealth holdings up slightly, with the ratio of mean wealth between blacks and whites falling from 0.14 to 0.13.
- 9. No change for Hispanic families.
- 10. No change for families under age 35 but sizeable recovery for families aged 35-44.

Principal Findings (cont.)

- 11. Failure of overall net worth to recover over 2010-2013 despite 6.2 percent real average annual rate of return can be traced to declines in ownership rates: (a) 67.2 to 65.1% for homes; (b) 50.4 to 49.2% for pension accounts; (c) 12.1 to 10.4% for businesses; and (d) 46.9 to 46.1% for stock directly or indirectly owned.

Principal Findings (cont.)

- 12. Greater leverage of middle class led to higher rate of return on net worth (a 0.78 point difference with that of top one percent), accounting for moderate increase in wealth inequality despite income inequality shooting up and the stock/house price ratio rising from 66 to 85.
- .