The Current State of U.S. Household Balance Sheets

Presentation for:
Restoring Household Financial Stability after the Great Recession:
Why Household Balance Sheets Matter
February 5-7, 2013

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Federal Reserve Board

The analysis and conclusions set forth are those of the authors and do not indicate concurrence by other members of the research staff or the Board of Governors of the Federal Reserve System. We are grateful to Jake Krimmel for outstanding research assistance on this project.

Motivation

- Federal Reserve Board produces two of most widely-used data sets on household finances
  - Quarterly aggregate Flow of Funds Accounts (FFA)
  - Triennial micro Survey of Consumer Finances (SCF)
- **FFA** is timely, currently through 2012 Q3, but does not capture household heterogeneity
- **SCF** has micro detail, but latest available is 2010; next release (for 2013 SCF) is early 2015

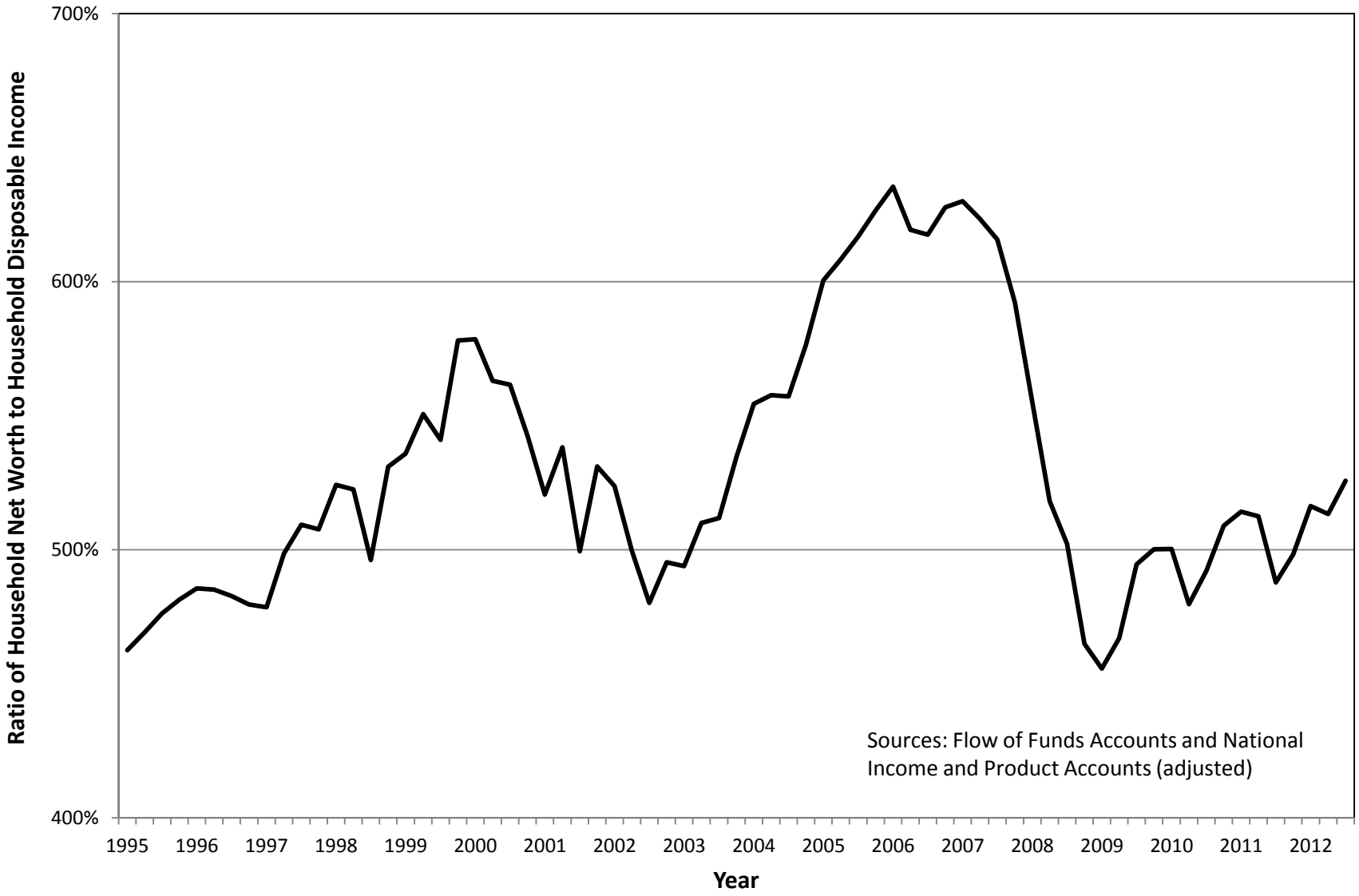
Key Policy Questions

- How much of damage to balance sheets leading up to and during the Great Recession has been reversed by price changes and time?
- How sensitive are various types of households to the potential for another round of shocks?
- What are the implications of the current balance sheet situation for future household spending and labor supply behavior?

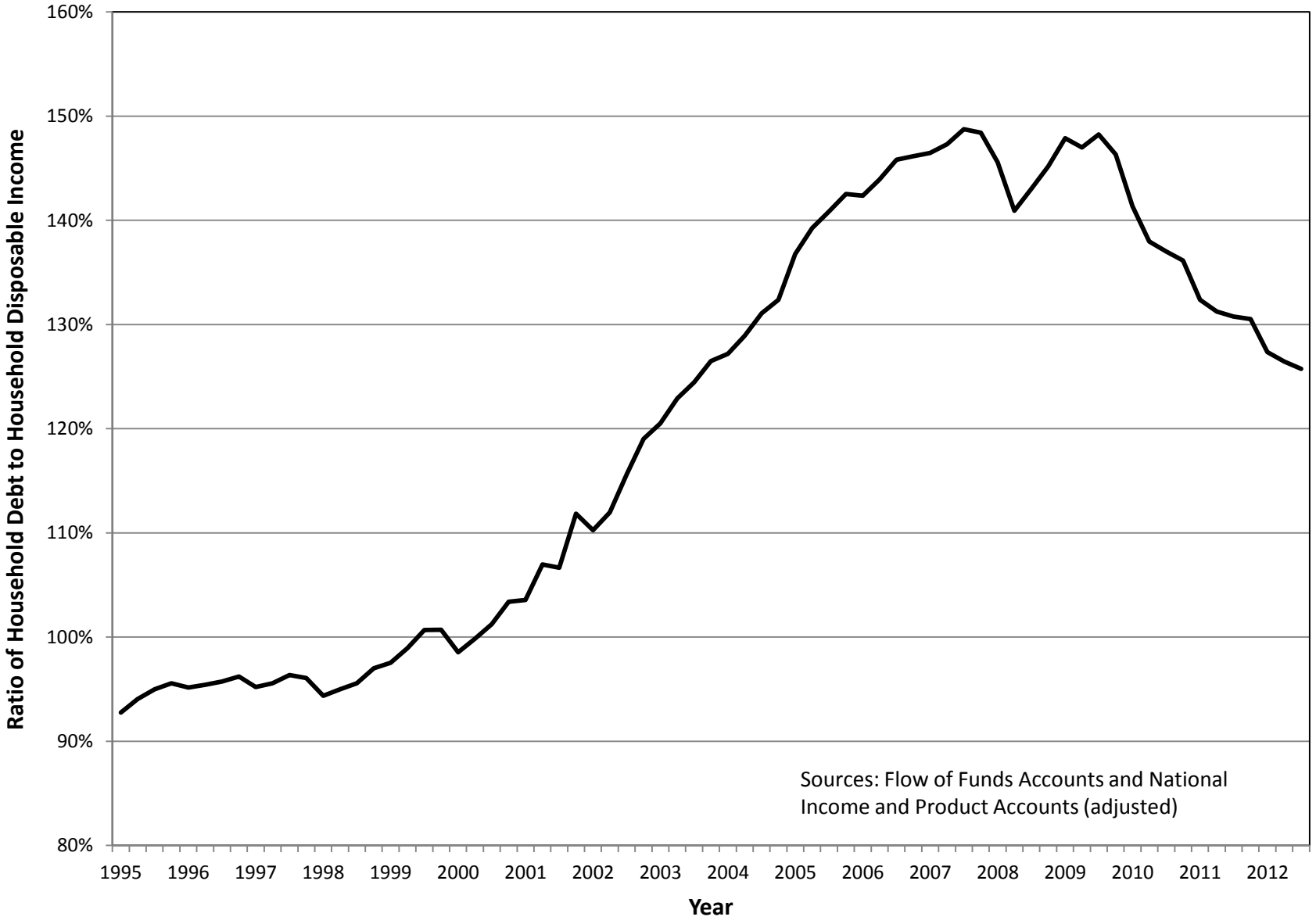
Aggregate Balance Sheet Trends

- Focus on four measures of aggregate household finances for the period 1995 Q1 through 2012 Q3
  - Net Worth to Income
  - Debt to Income
  - Debt Service to Income
  - Housing Loan to Value
- We will look at the same measures in the SCF, so we adjust the aggregates to be conceptually consistent
  - Adjusted FFA net worth excludes non-profits, DB pensions, other smaller assets and liabilities that mostly net out
  - Adjusted NIPA income excludes employer-provided benefits, Medicare and Medicaid, other in-kind transfers

Some Recovery from the Great Collapse in Aggregate Net Worth...

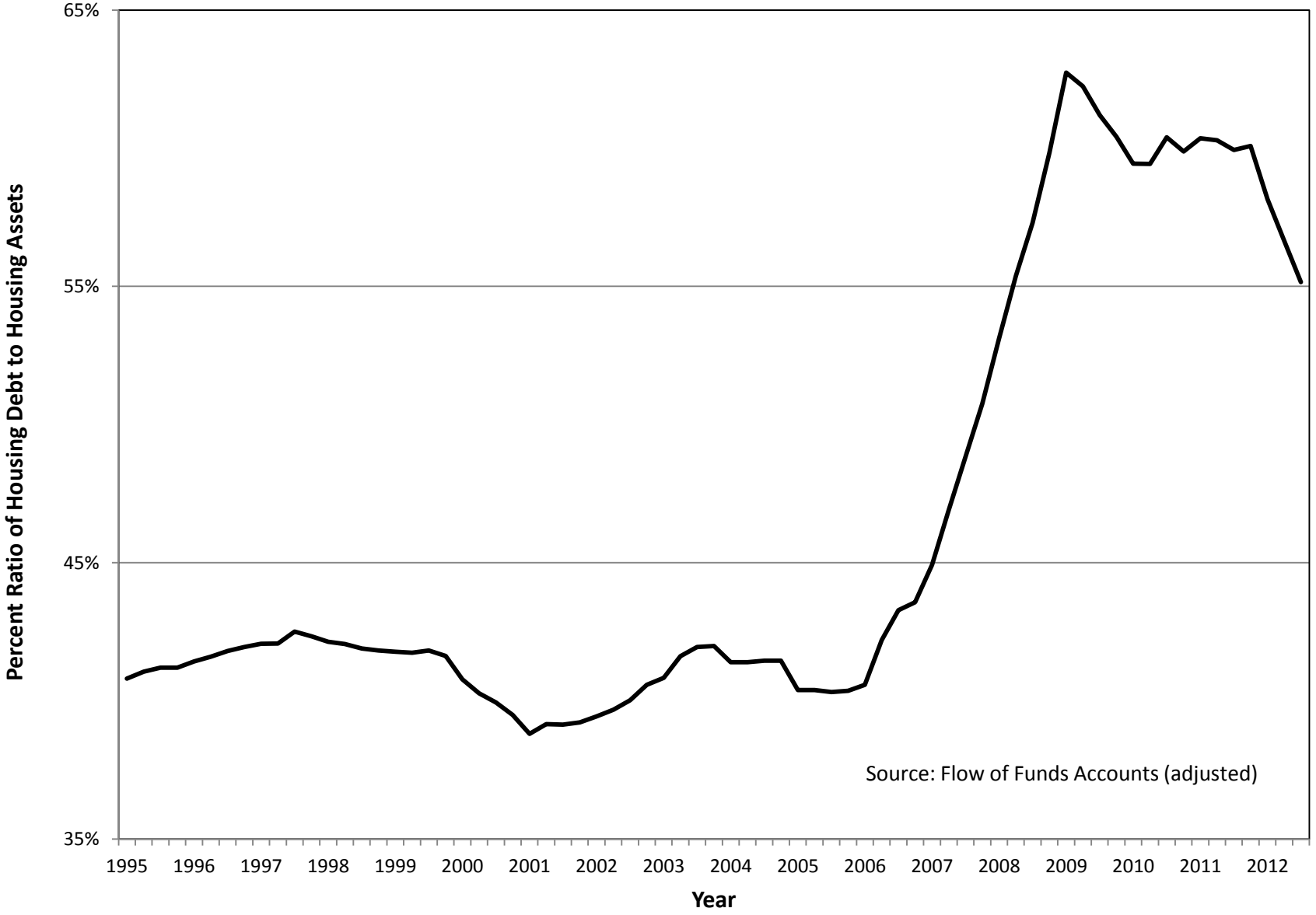


...but Aggregate Debt Levels Remain Elevated



Low Interest Rates and Other Debt Terms have Reduced Debt Service...

...but Aggregate Housing Debt to Housing Assets (LTV) Remains High



Micro-Level Balance Sheet Trends

- Two ways to use the SCF to get a distributional perspective on these aggregate trends
  - Across groups: how do these aggregate trends vary by factors like age, “normal” income, and geography?
  - Within groups: what fraction of families have values for various measures that exceed critical thresholds?
- We have actual SCF data triennially 1995 to 2010
- We use external data and an “aging” thought experiment to project distributions to 2012 Q3

SCF "Aging" Thought Experiment

- Income
  - SCF income components grow proportionally with corresponding NIPA categories
- Asset Prices
  - House values evolve with CBSA-level LP indexes
  - Equity prices evolve proportionally with Wilshire 5000
  - Non-corporate equity revaluations from FFA
- Debt levels "aged" to 2012 using two scenarios
  - No net change from 2010 levels
  - Principal on installment loans reduced using 2010 loan terms and behavior (i.e, currently making payments)
  - No modeling of new debt (work in progress)

Changes in Asset Values Since 2010 SCF

- Relative-price aging methodology simple, but
  - Captures much of what has happened to asset values and (aggregate) net worth
  - Time pattern of revaluations crucial past two years
- For example, between 2010 Q3 and 2012 Q3
  - Nominal FFA net worth increased 13.9%
  - Three asset revaluations (housing, corporate and non-corporate equity) alone increase SCF net worth 11.0%
  - Equity prices rose steadily, house prices down then up

Changes in Debt Since 2010 SCF

- Two illustrative debt scenarios; NOT meant to represent what actually happened to aggregate debt at the micro level ("thought experiment")
- Aggregate debt fell about 2% 2010 Q3 to 2012 Q3
- Extrapolating 2010 SCF loan terms and behavior:
  - Mortgage debt would fall 5.9% (actual fell 6.1%)
  - Education debt would fall 6.6% (actual rose 32.8%)
  - Vehicle debt would fall 46.8% (actual rose 16.9%)
  - Other installment would fall 18.9% (actual rose 1.9%)

Mean Net Worth (2012$s) by Normal Income

Normal Income Percentile	Actual		Percent Change
	2007 Q3	2010 Q3	
All	$600,725	$512,932	-15%
1 to 20	99,488	74,943	-25%
21 to 40	142,609	131,511	-8%
41 to 60	228,986	172,030	-25%
61 to 80	400,820	304,731	-24%
81 to 90	643,892	630,764	-2%
90 to 100	3,603,810	3,134,182	-13%

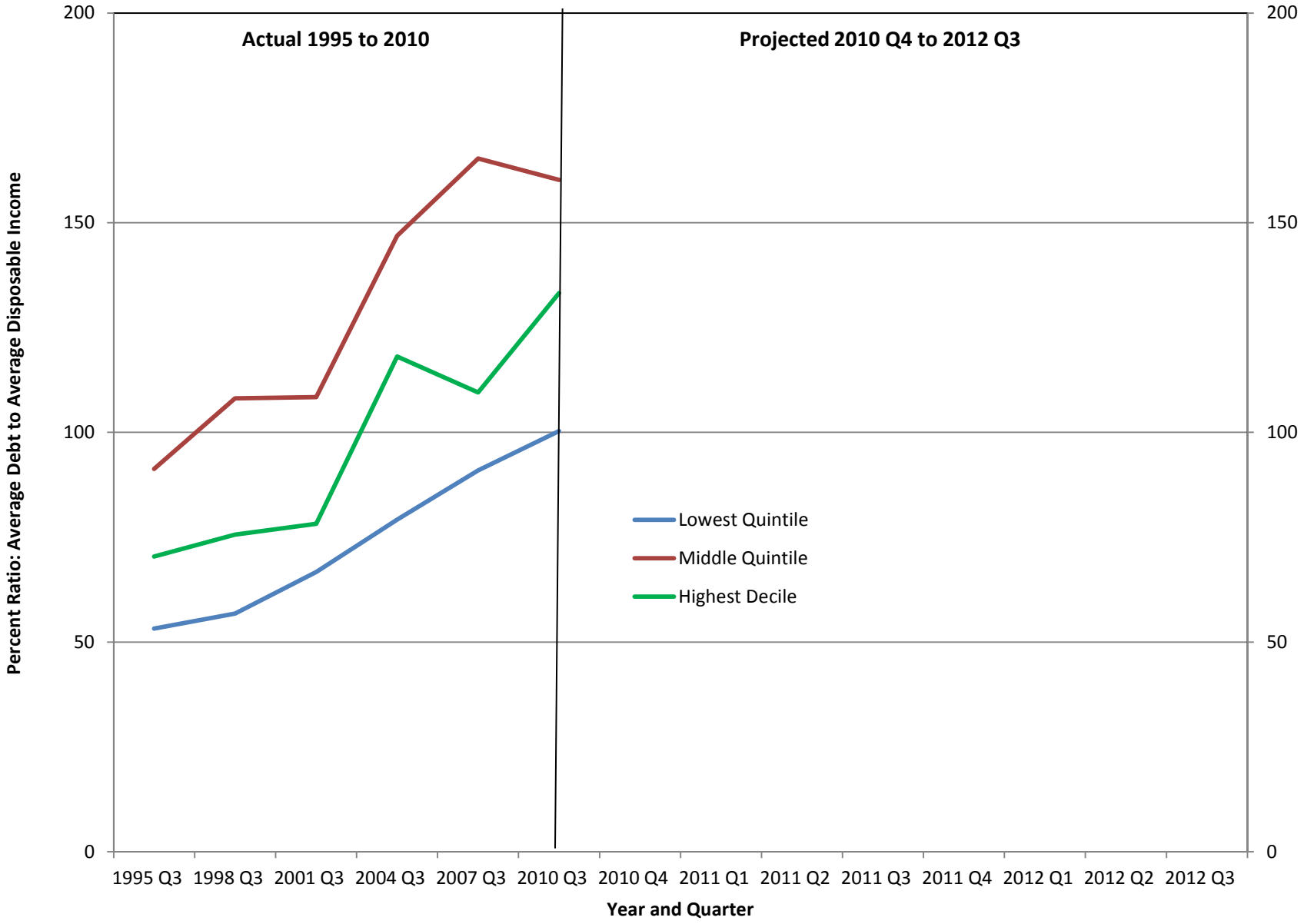
Effect of Relative Prices on Mean Net Worth (2012$s) by Normal Income

Normal Income Percentile	Actual 2010 Q3	Projected 2011 Q3	Projected 2012 Q3	Percent Change from 2010 Q3 to 2011 Q3	Percent Change from 2010 Q3 to 2012 Q3
All	$512,932	$493,401	$537,214	-4%	5%
1 to 20	74,943	71,666	75,394	-4%	1%
21 to 40	131,511	125,258	131,423	-5%	0%
41 to 60	172,030	163,610	174,688	-5%	2%
61 to 80	304,731	290,235	311,997	-5%	2%
81 to 90	630,764	602,477	655,394	-4%	4%
90 to 100	3,134,182	3,031,979	3,331,984	-3%	6%

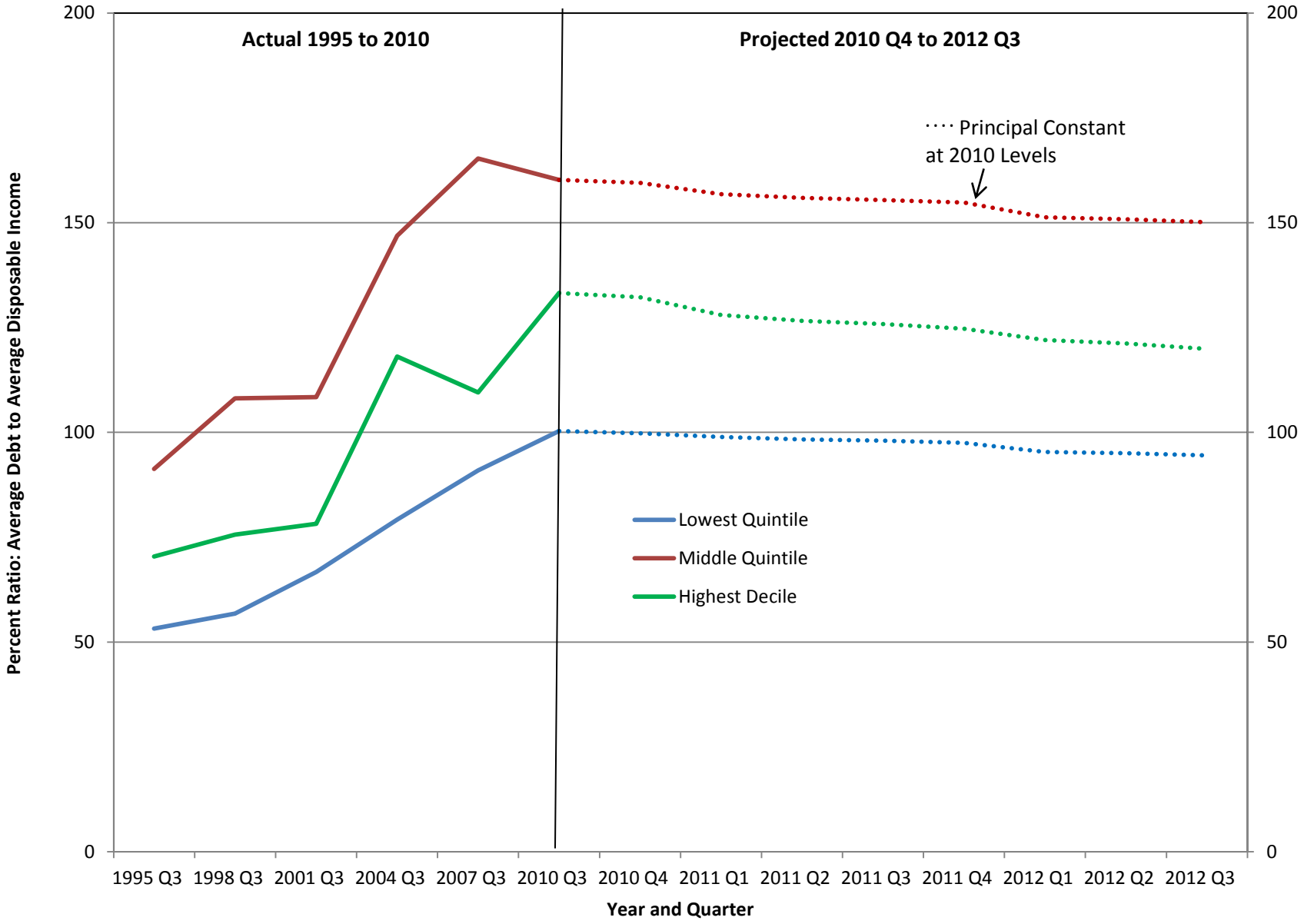
Effect of Relative Prices and Debt Pay Down on Mean Net Worth (2012$s) by Normal Income

Normal Income Percentile	Actual 2010 Q3	Projected 2011 Q3	Projected 2012 Q3	Projected Change from 2010 Q3 to 2011 Q3	Projected Change from 2010 Q3 to 2012 Q3
All	$512,932	$497,529	$544,897	-3%	6%
1 to 20	$74,943	$72,591	$77,039	-3%	3%
21 to 40	$131,511	$127,004	$134,550	-3%	2%
41 to 60	$172,030	$166,603	$180,171	-3%	5%
61 to 80	$304,731	$295,298	$321,394	-3%	5%
81 to 90	$630,764	$609,929	$669,237	-3%	6%
90 to 100	$3,134,182	$3,044,343	$3,355,620	-3%	7%

Average Debt to Average Income Ratio, by Normal Income Percentile



Average Debt to Average Income Ratio, by Normal Income Percentile



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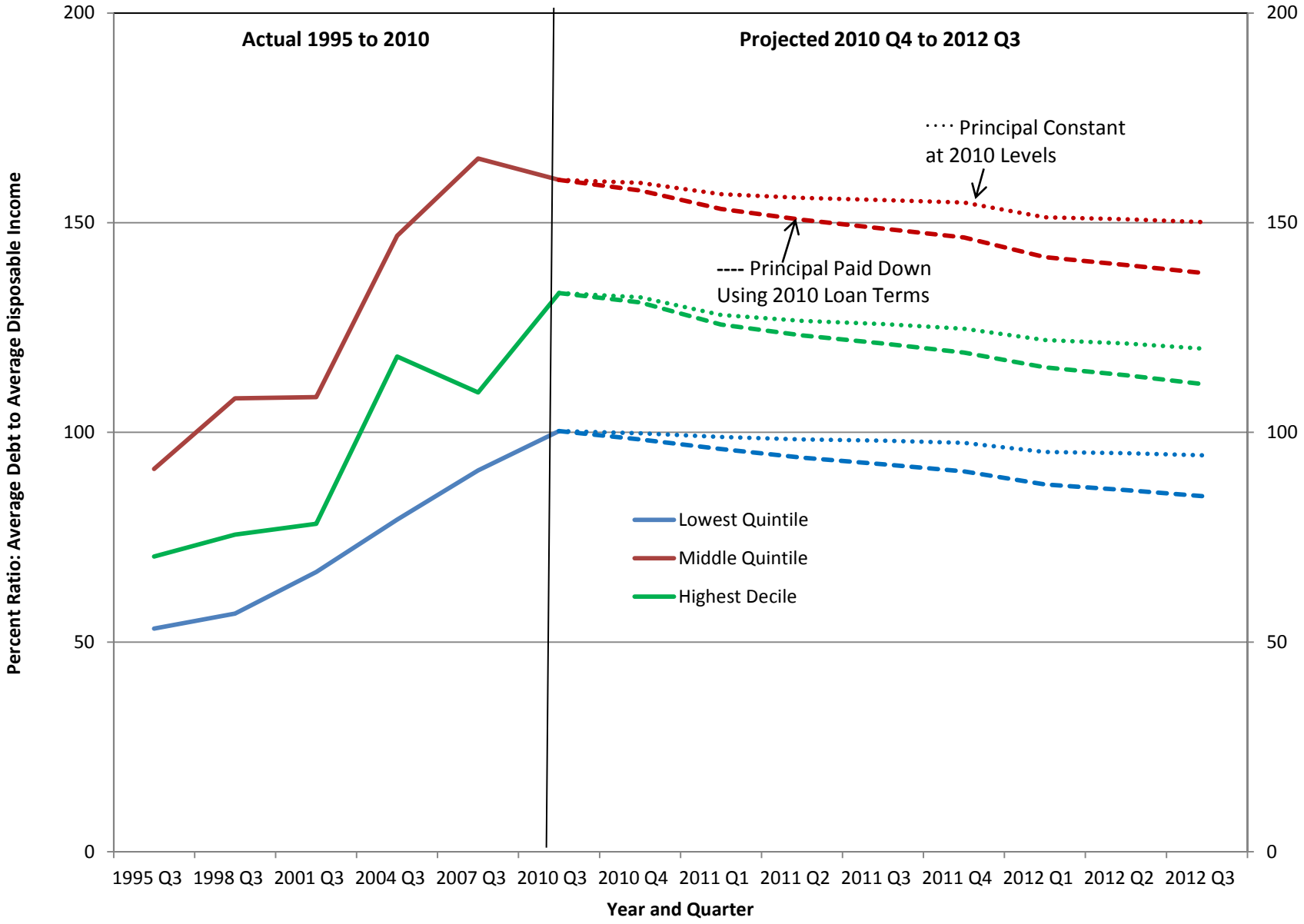
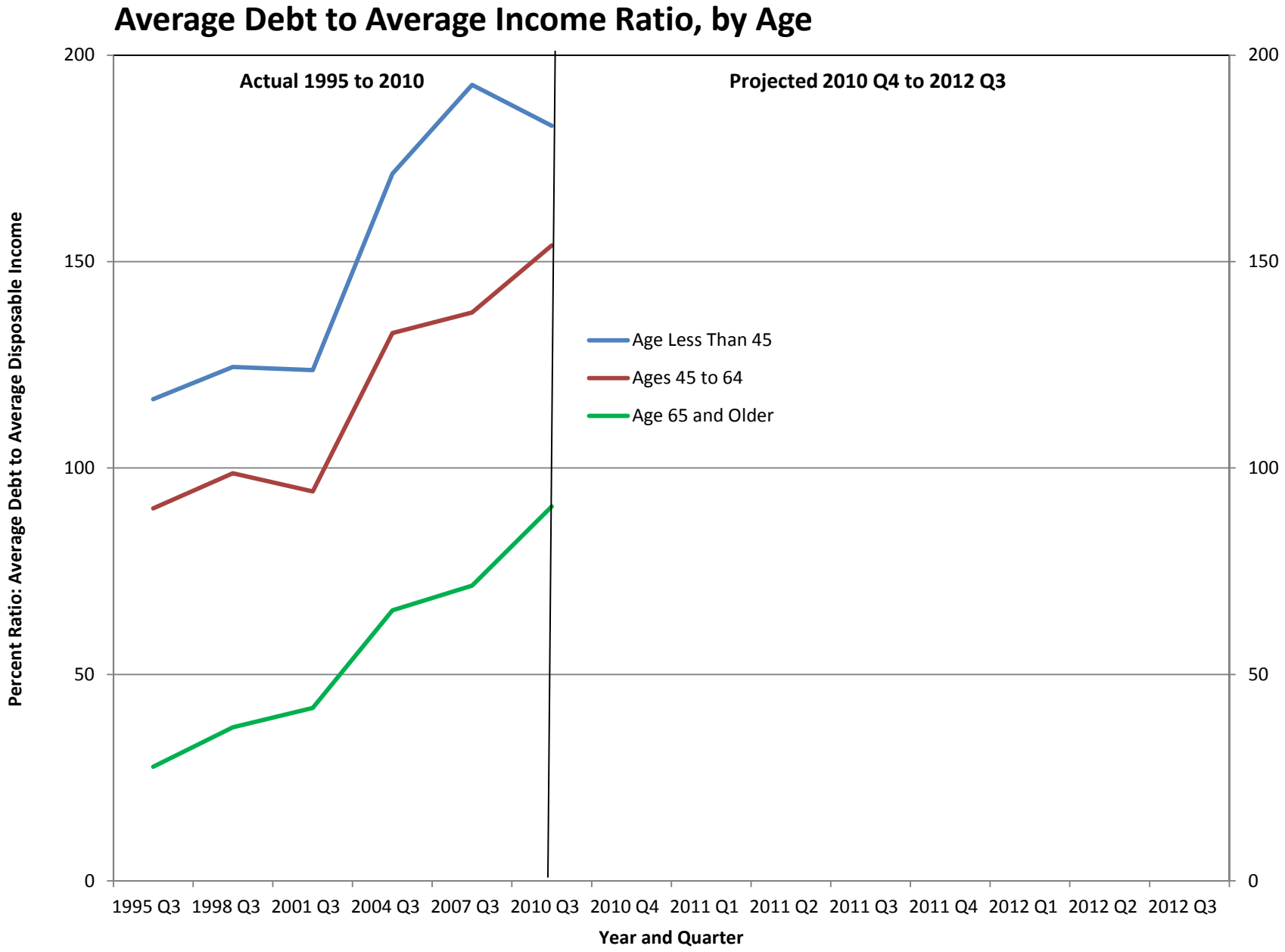
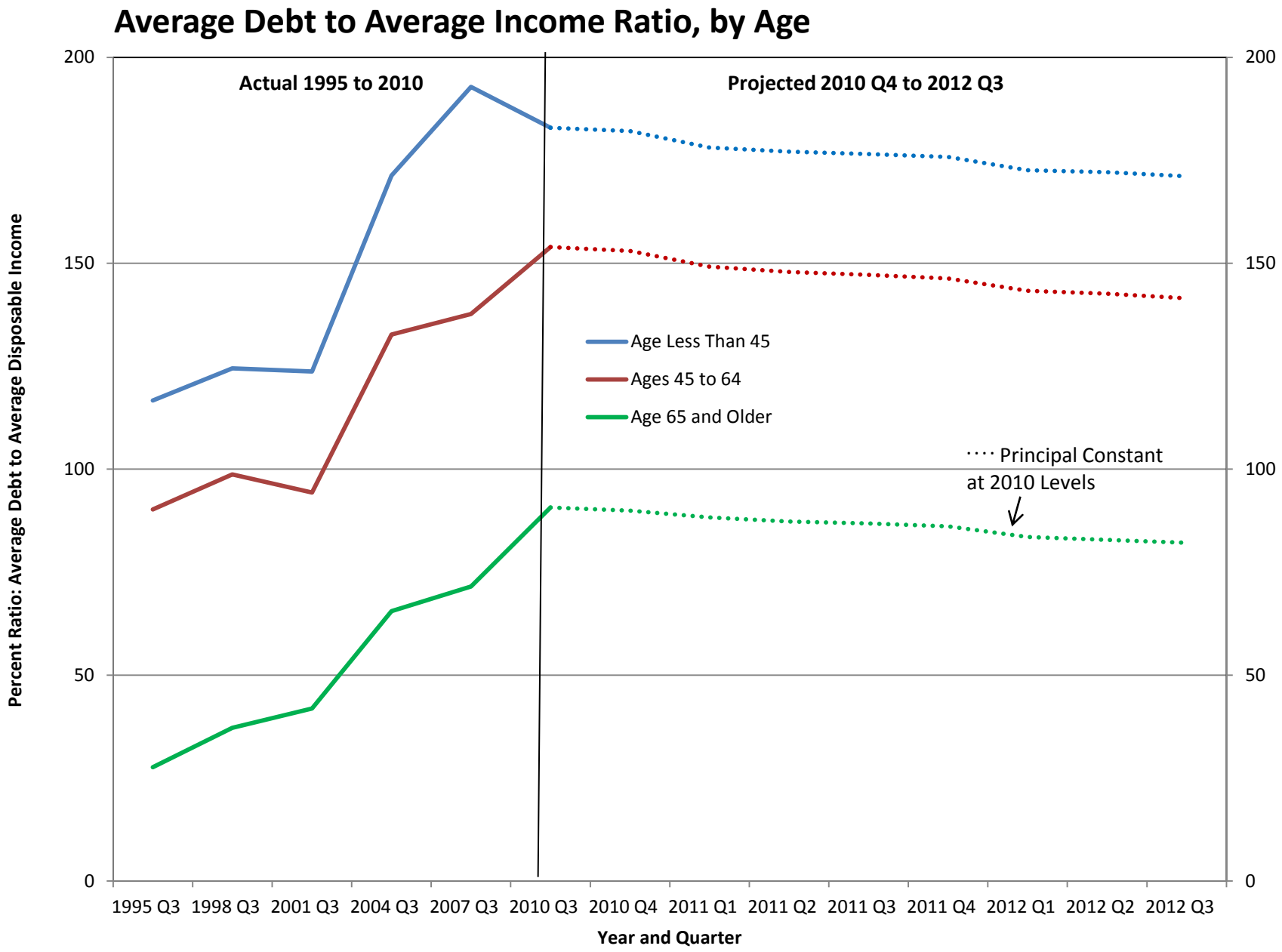



Average Debt to Average Income Ratio, by Age
Actual 1995 to 2010
Projected 2010 Q4 to 2012 Q3
Age Less Than 45
Ages 45 to 64
Age 65 and Older
Percent Ratio: Average Debt to Average Disposable Income
200
150
100
50
0
1995 Q3
1998 Q3
2001 Q3
2004 Q3
2007 Q3
2010 Q3
2010 Q4
2011 Q1
2011 Q2
2011 Q3
2011 Q4
2012 Q1
2012 Q2
2012 Q3
Year and Quarter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···· Principal Constant at 2010 Levels
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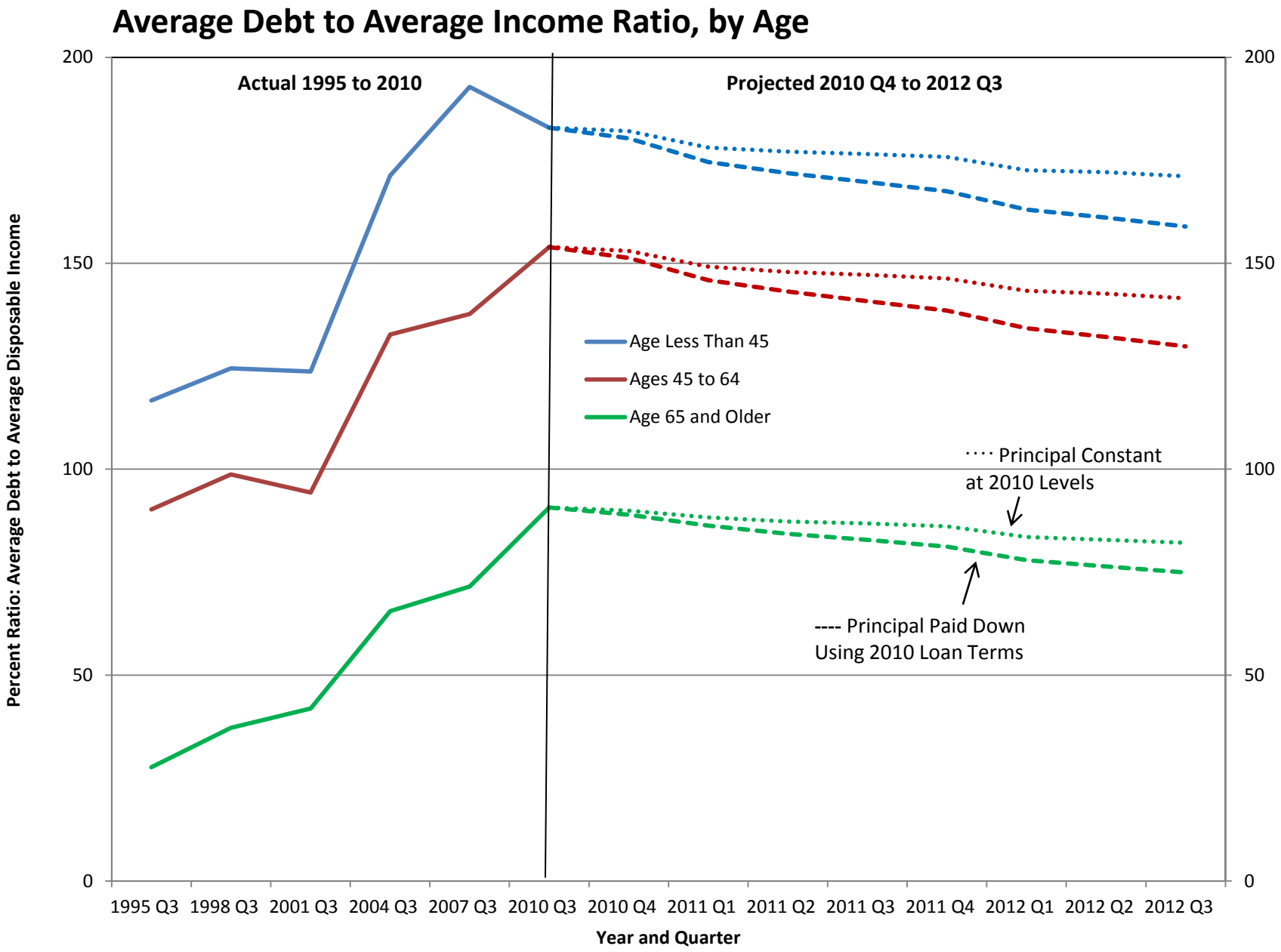
2011 Q2
2011 Q3
2011 Q4
2012 Q1
2012 Q2
2012 Q3
Year and Quarter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Actual 1995 to 2010
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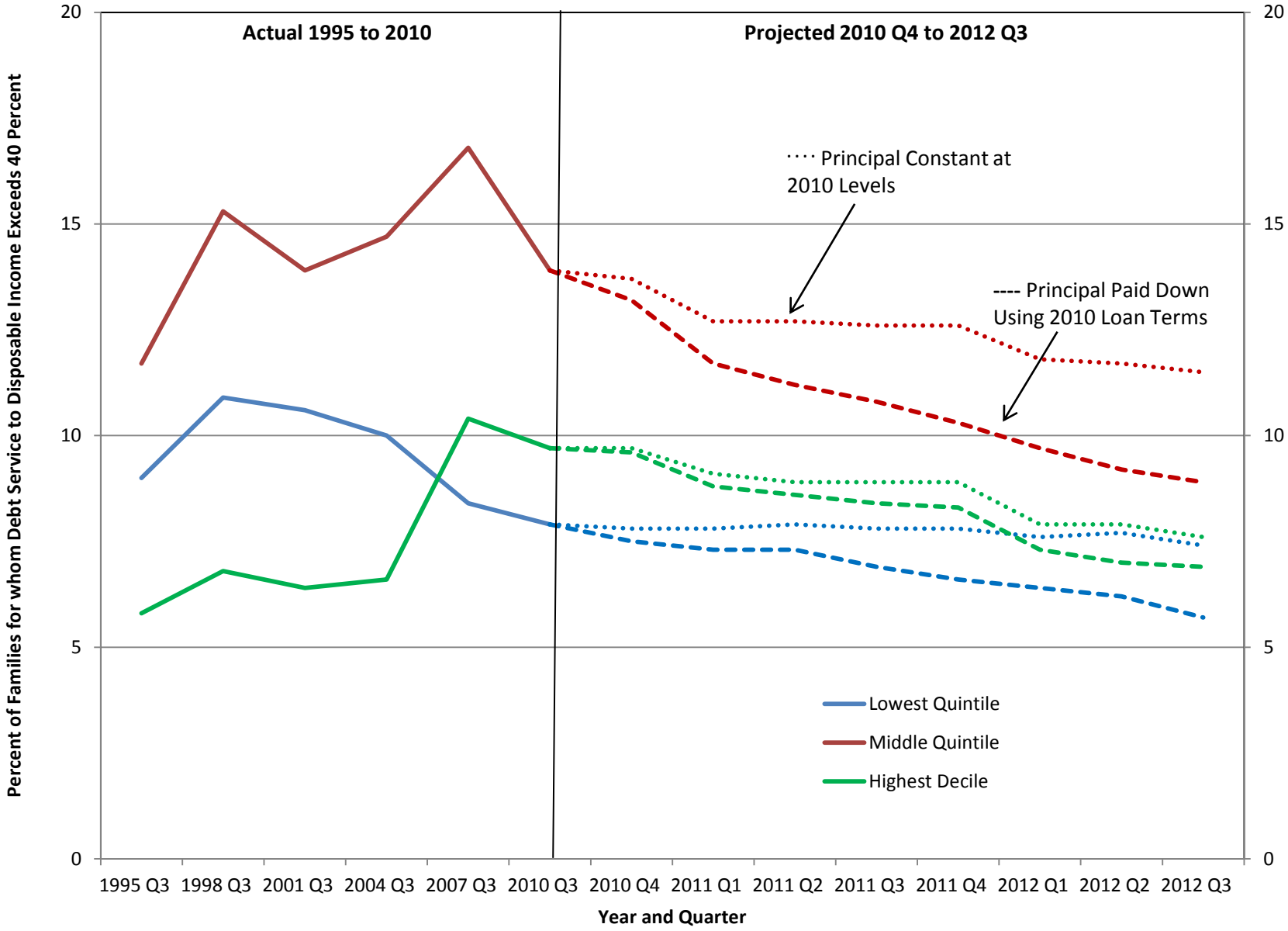
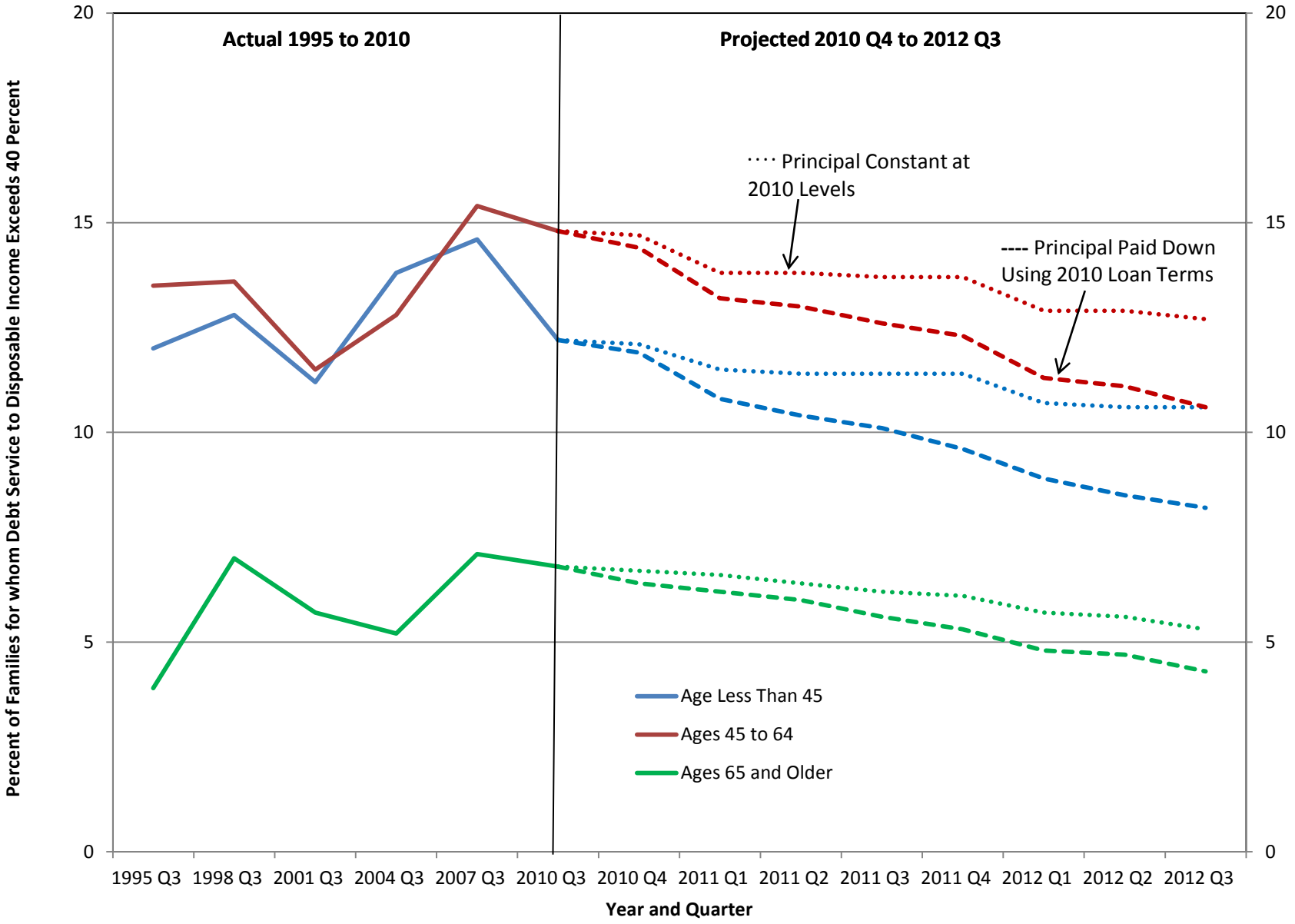
Age Less Than 45
Ages 45 to 64
Age 65 and Older
···· Principal Constant at 2010 Levels
---- Principal Paid Down Using 2010 Loan Terms
Percent Ratio: Average Debt to Average Disposable Income
Year and Quarter
200
150
100
50
0
1995 Q3
1998 Q3
2001 Q3
2004 Q3
2007 Q3
2010 Q3
2010 Q4
2011 Q1
2011 Q2
2011 Q3
2011 Q4
2012 Q1
2012 Q2
2012 Q3

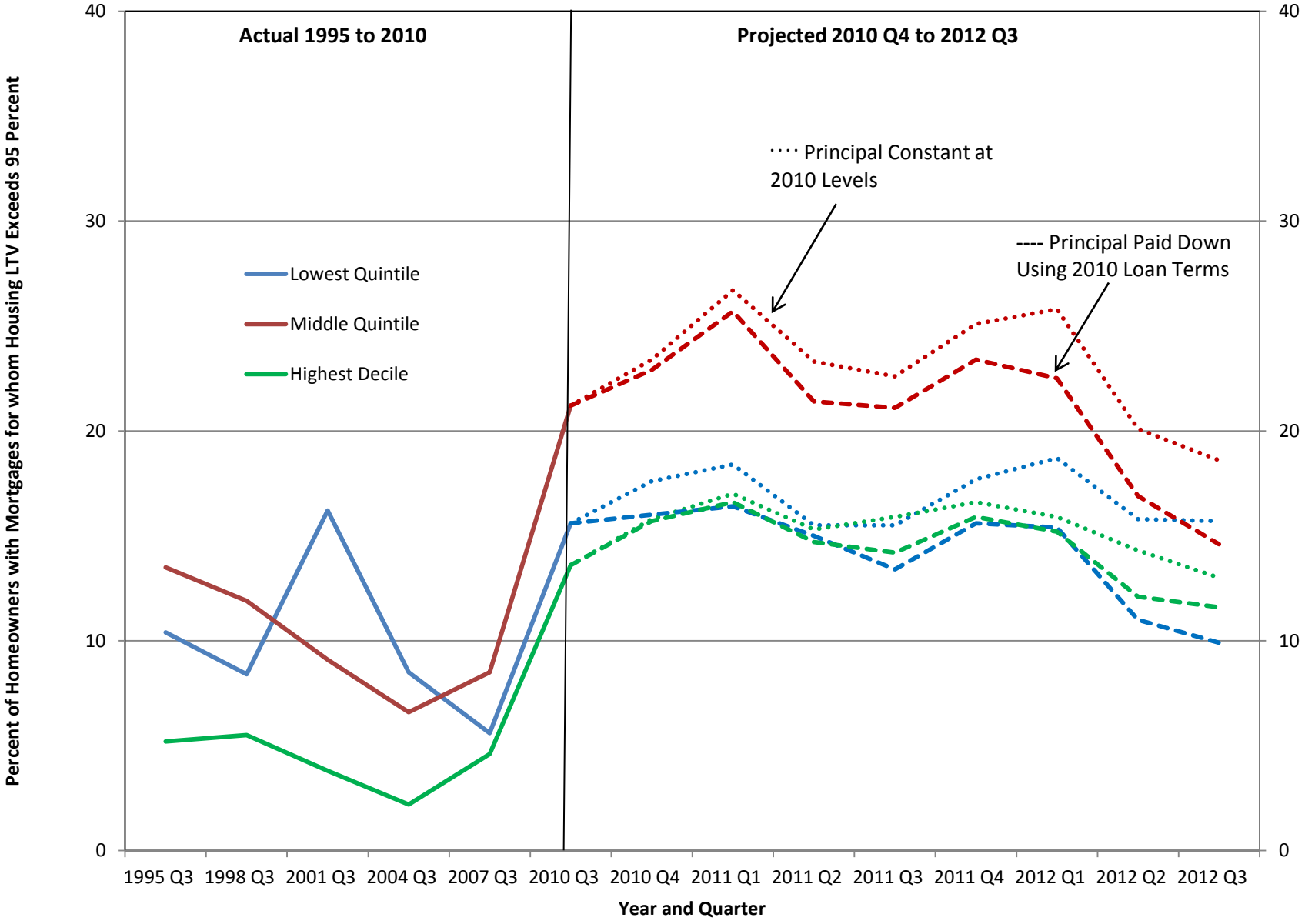
Families with Debt Service Ratio>40 Percent, by Normal Income



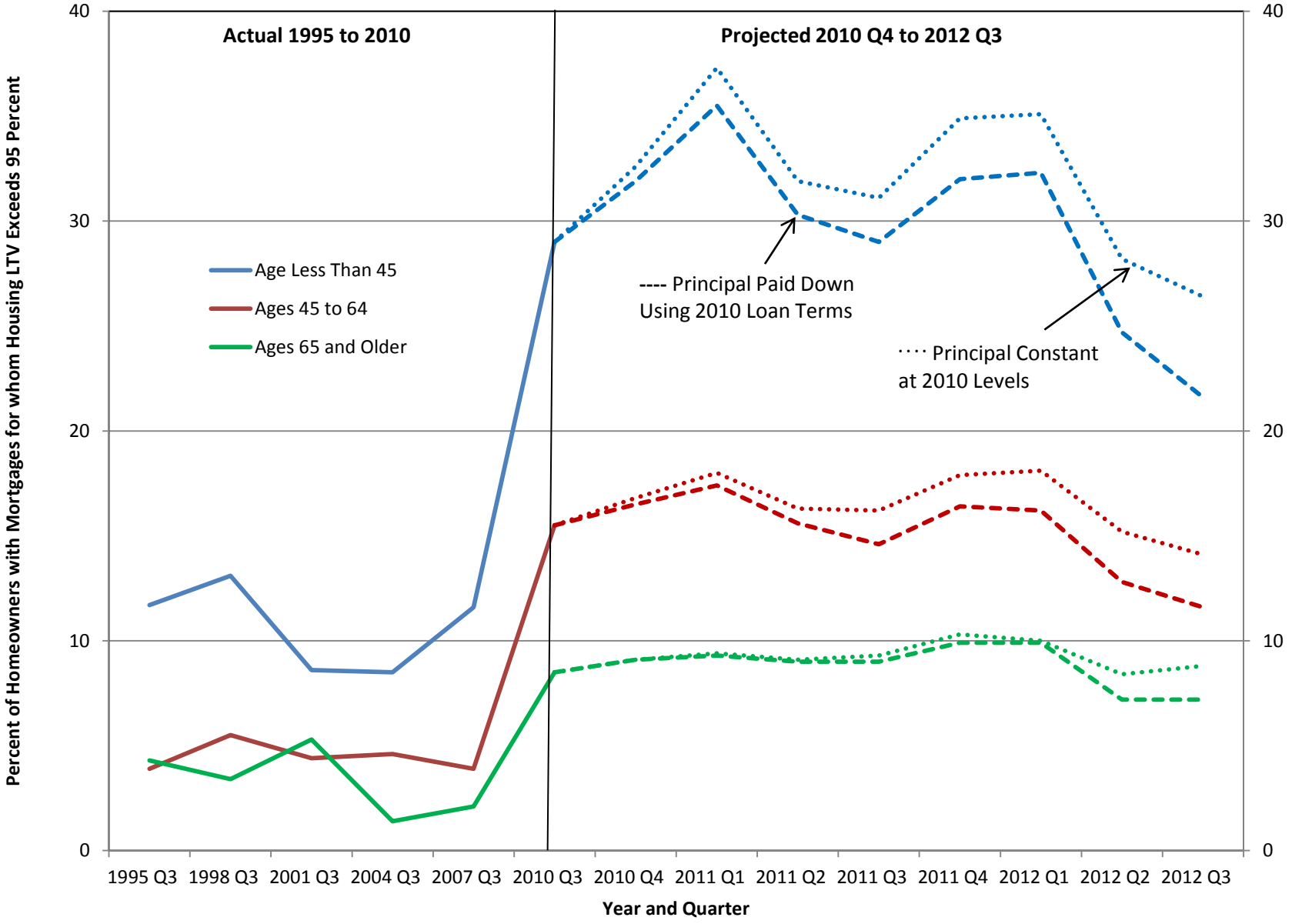
Families with Debt Service Ratio>40 Percent, by Age



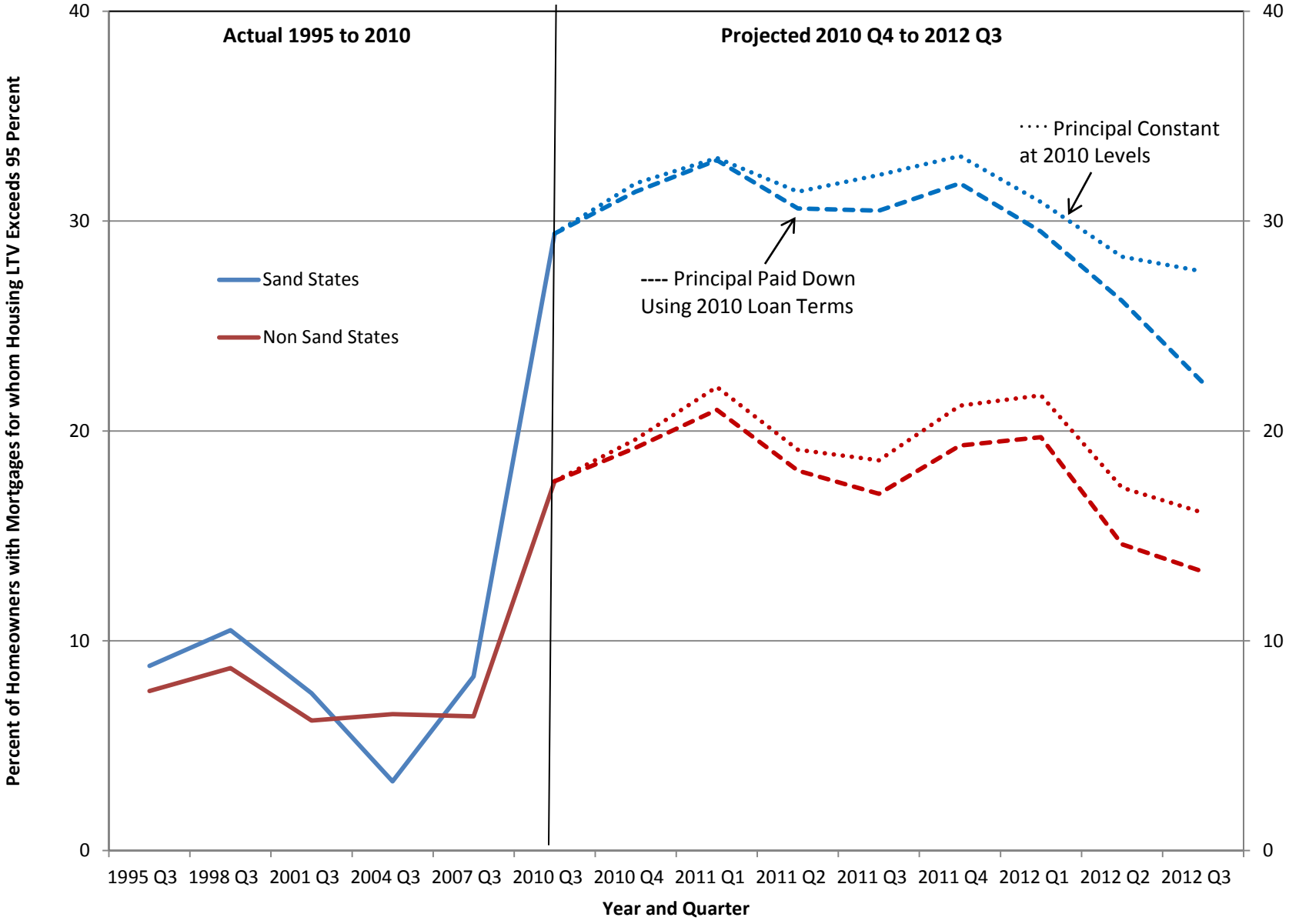
Families with Housing LTV>95 Percent, by Normal Income Percentile



Families with Housing LTV>95 Percent, by Age



Families with Housing LTV>95 Percent, by Geography



Conclusions

- Real wealth losses between 2007 to 2010 were widespread, continued after 2010, began to reverse (on net) in 2012
- Real wealth gains due to house and equity prices after 2010 are much higher at top of the “normal” income distribution
- Steadily rising incomes have improved key household ratios
- Thought experiment of reducing principal using scheduled payments does not change distributional conclusions much
- Debt growth leading up to 2010 was widespread by income and age, though relatively stronger for ages 65 and older
- Aggregate debt service rose and fell 2001 to 2012, but share of families with debt service exceeding 40 percent of disposable income did not fluctuate nearly as much

Conclusions (Continued)

- Aggregate housing loan to value (LTV) ratio and the percent of mortgage holders with LTV>95% tell a similar story about changes over time
  - LTVs flat 1995 to 2006; jumped when house prices fell
  - LTVs gradually falling after 2010; principal repayment
  - Big declines in 2012 when house prices began to rise
  - LTVs remain well above pre-2007 levels
- Residual high LTVs suggests many families still vulnerable to potential future house price shocks