FEDERAL RESERVE BANK *of* NEW YORK

Press Briefing on Household Debt, with Focus on Student Debt

April 3, 2017

Raji Chakrabarti, Andrew Haughwout, Donghoon Lee, Joelle Scally, Wilbert van der Klaauw

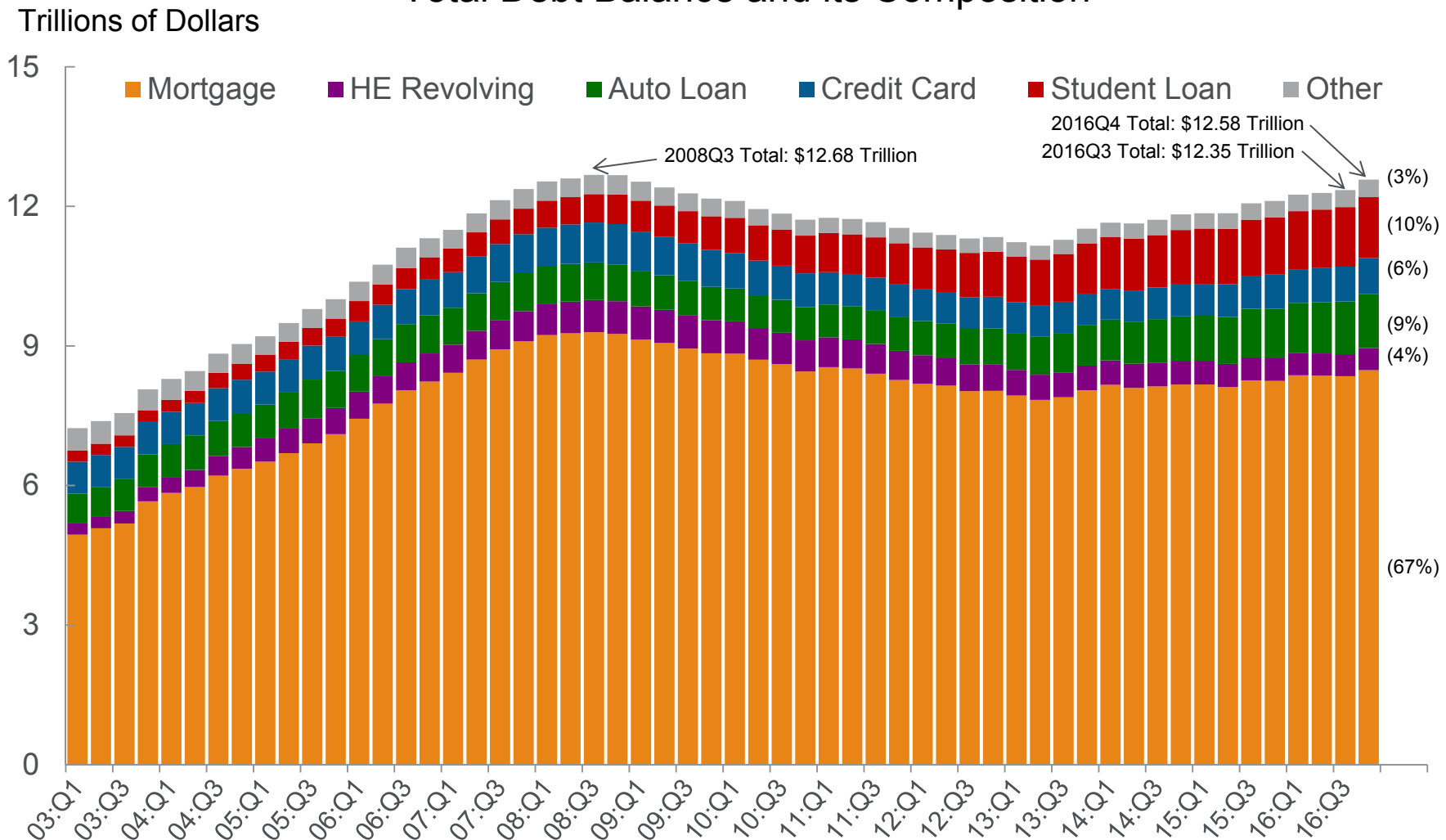# Roadmap for Today's Presentation

- Overview of Household Debt

- Recent Trends in Student Loan Borrowing, Delinquency and Repayment

- Relationship between Homeownership, Student Debt and Educational Attainment

Overview of Household Debt

Total Household Debt Expected to Pass 2008Q3 Peak this Year but Composition Has Changed
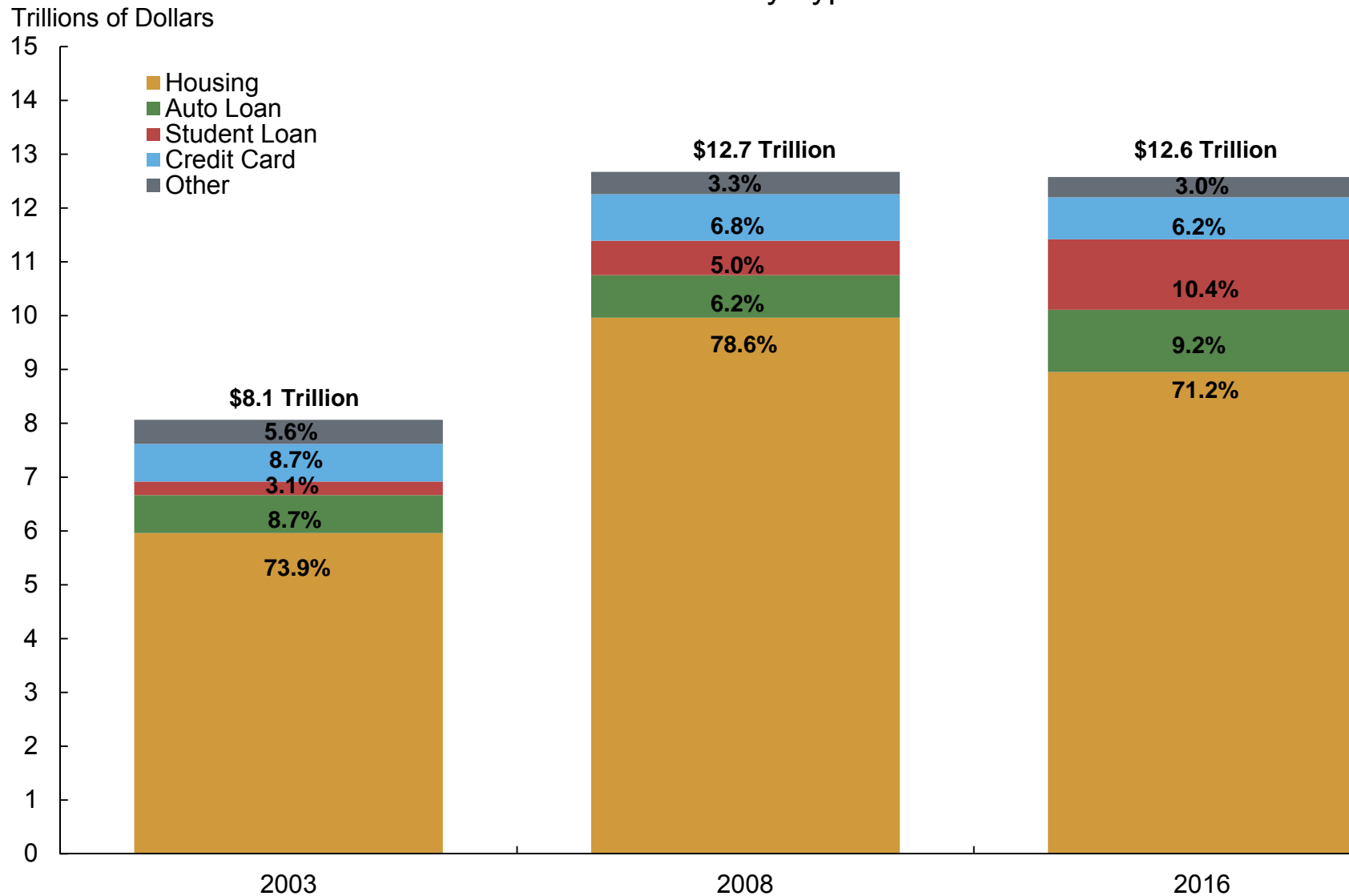
Total Debt Balance and its Composition

Trillions of Dollars

Legend: Mortgage, HE Revolving, Auto Loan, Credit Card, Student Loan, Other

2016Q4 Total: $12.58 Trillion
2016Q3 Total: $12.35 Trillion
2008Q3 Total: $12.68 Trillion

(3%)
(10%)
(6%)
(9%)
(4%)
(67%)

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Housing Debt is $1T Below Previous Peak; Student and Auto Debt up $700B and $350B

Total Debt by Type

Trillions of Dollars

2003 — $8.1 Trillion
- Other: 5.6%
- Credit Card: 8.7%
- Student Loan: 3.1%
- Auto Loan: 8.7%
- Housing: 73.9%

2008 — $12.7 Trillion
- Other: 3.3%
- Credit Card: 6.8%
- Student Loan: 5.0%
- Auto Loan: 6.2%
- Housing: 78.6%

2016 — $12.6 Trillion
- Other: 3.0%
- Credit Card: 6.2%
- Student Loan: 10.4%
- Auto Loan: 9.2%
- Housing: 71.2%

Legend:
- Housing
- Auto Loan
- Student Loan
- Credit Card
- Other

*data for 4th quarter of each year
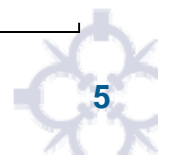
Mortgage Underwriting Remains Tight, Though Auto Loans See Looser Standards

Mortgages*

Auto Loans*

Score (y-axis ranges 500–800 on both panels)

50th percentile
25th percentile
10th percentile

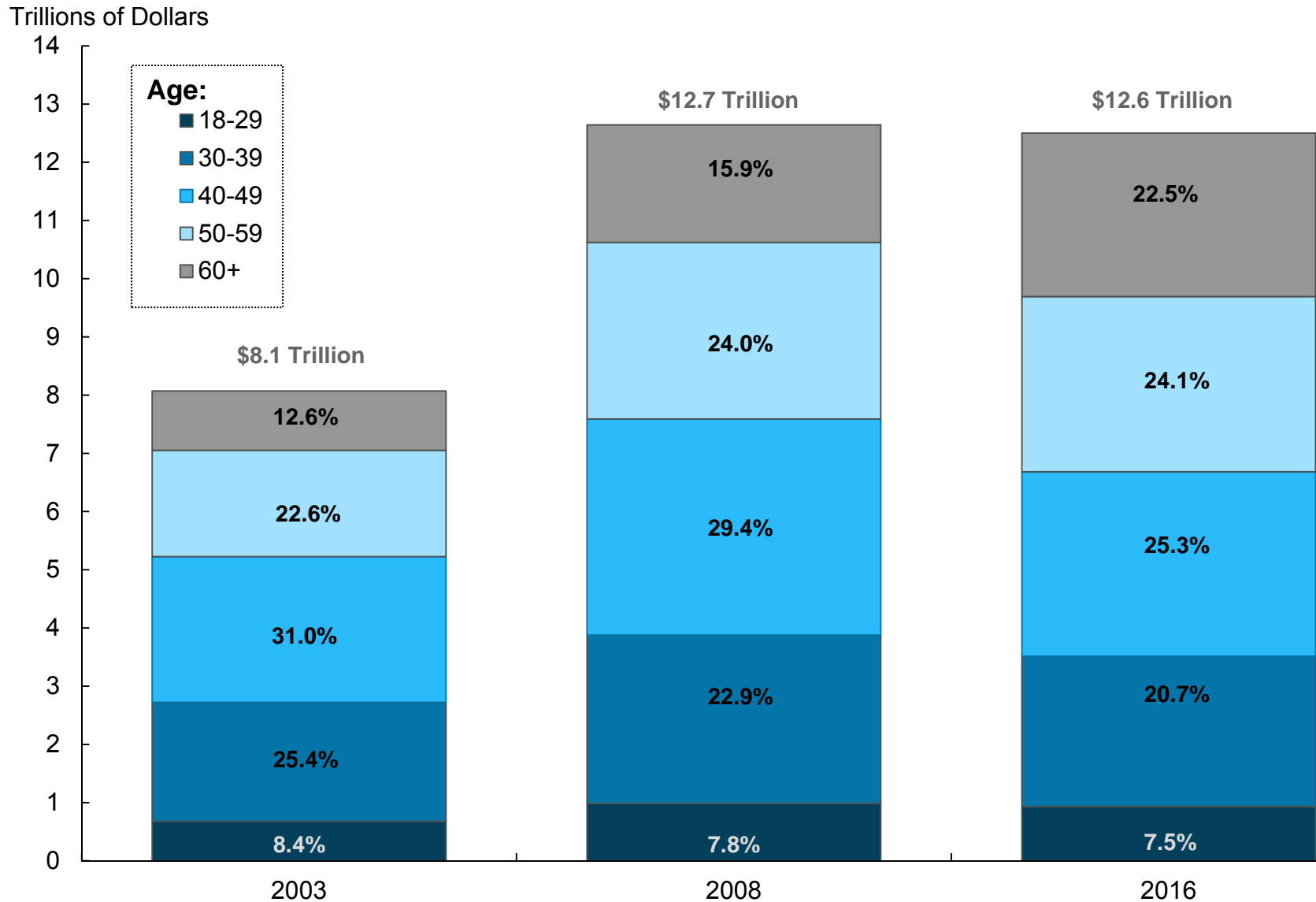x-axis: 04:Q1, 06:Q1, 08:Q1, 10:Q1, 12:Q1, 14:Q1, 16:Q1
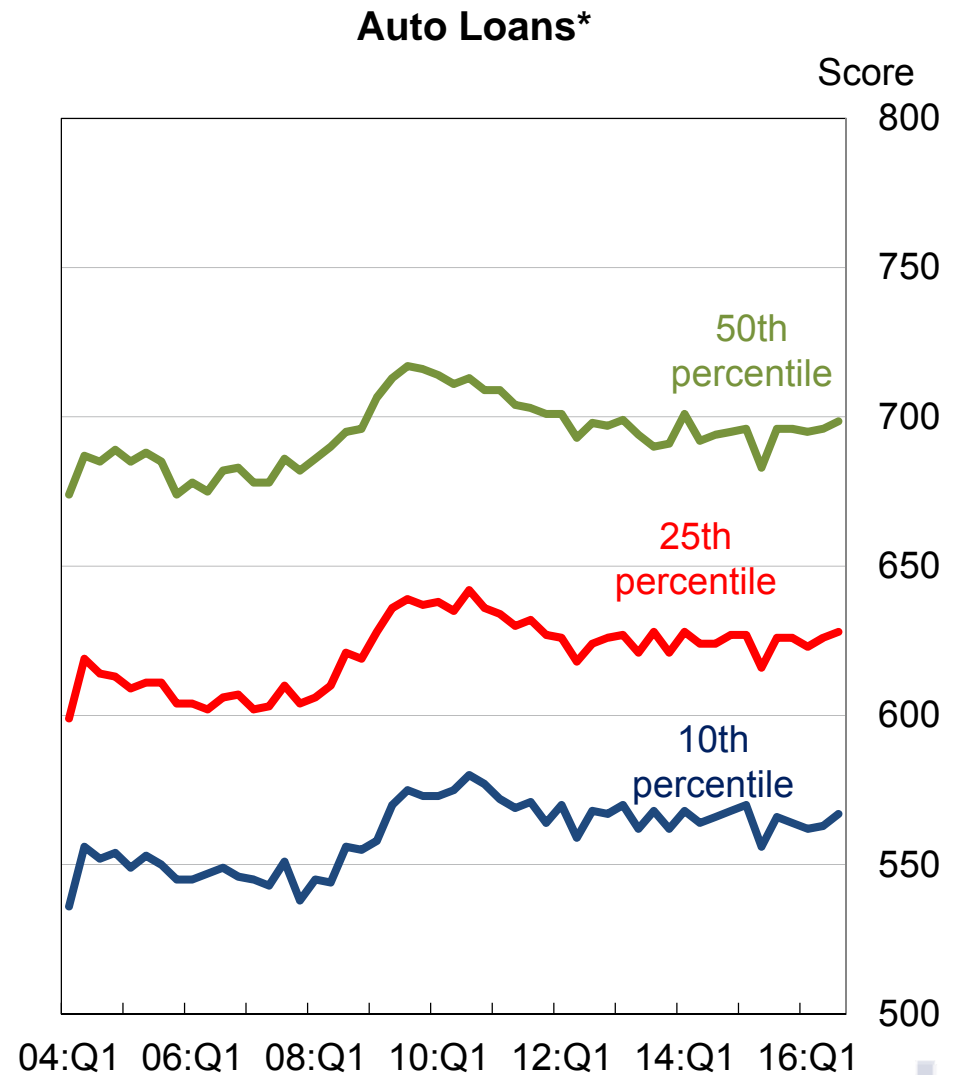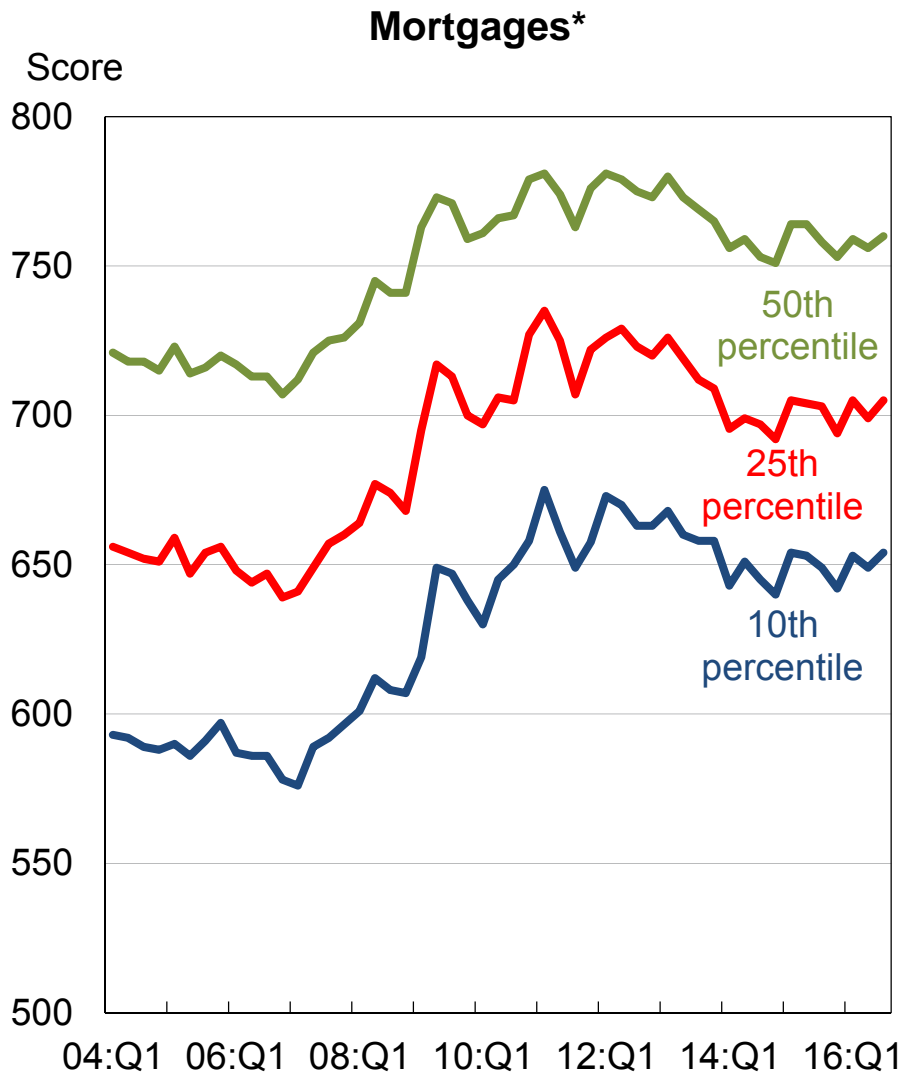
Source: New York Fed Consumer Credit Panel/Equifax
* Credit Score is Equifax Riskscore 3.0; mortgages include first-liens only.

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Older Borrowers (Age 60+) Take Greater Share of Debt

Total Debt by Age of Borrower

Trillions of Dollars

Age:
- 18-29
- 30-39
- 40-49
- 50-59
- 60+

2003 — $8.1 Trillion
- 60+: 12.6%
- 50-59: 22.6%
- 40-49: 31.0%
- 30-39: 25.4%
- 18-29: 8.4%

2008 — $12.7 Trillion
- 60+: 15.9%
- 50-59: 24.0%
- 40-49: 29.4%
- 30-39: 22.9%
- 18-29: 7.8%

2016 — $12.6 Trillion
- 60+: 22.5%
- 50-59: 24.1%
- 40-49: 25.3%
- 30-39: 20.7%
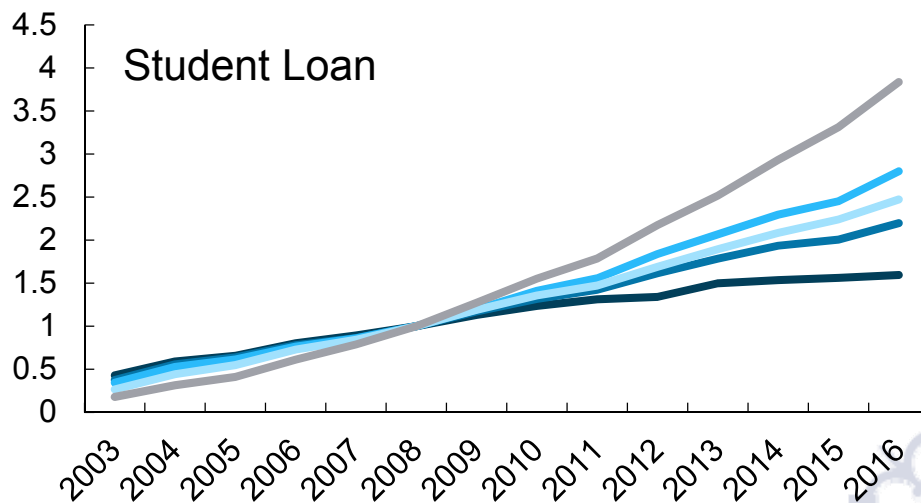- 18-29: 7.5%

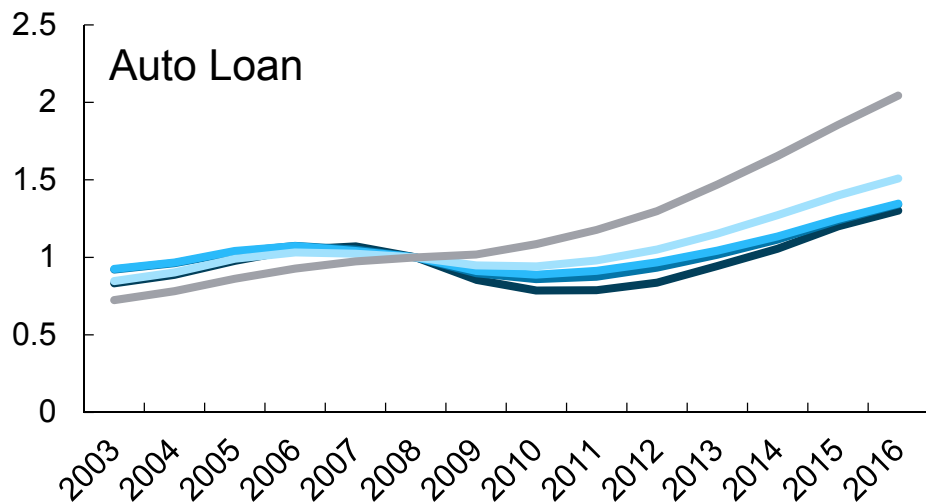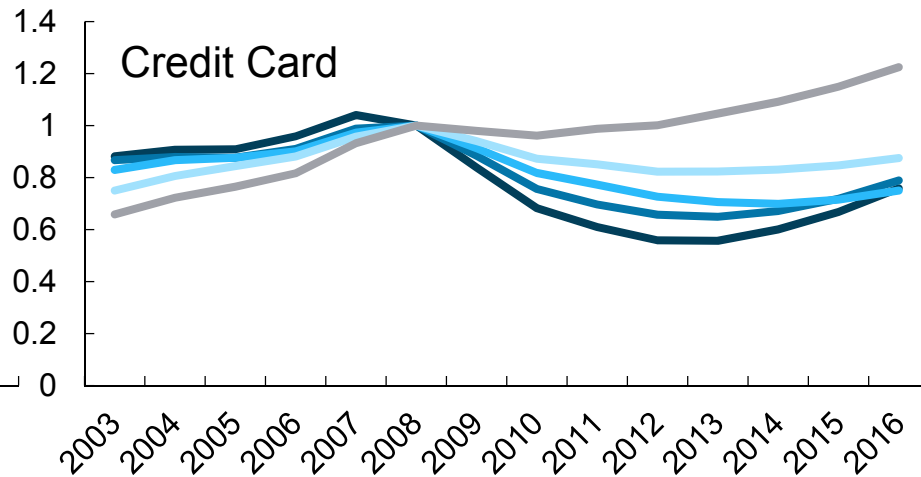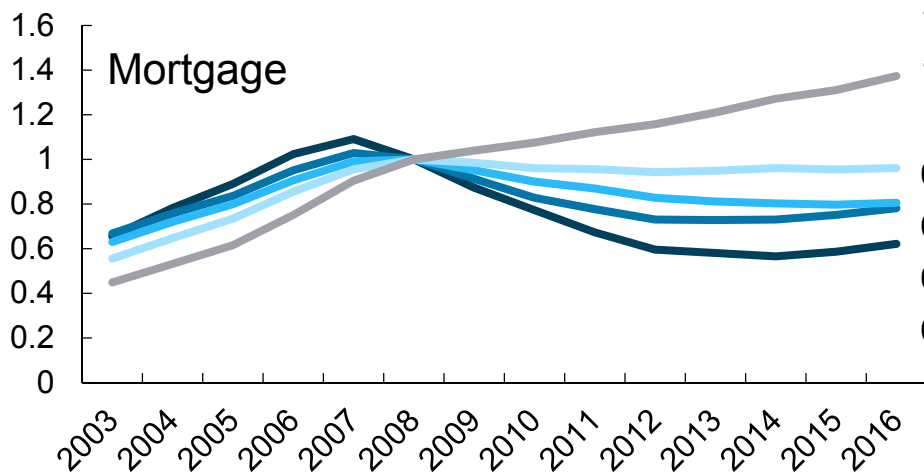*Source: New York Fed Consumer Credit Panel/Equifax*

*data for 4th quarter of each year

All Debt Grew for Oldest Borrowers, Only Student and Auto Debt for Younger Borrowers

Balances Relative to 2008 Peak, by Age
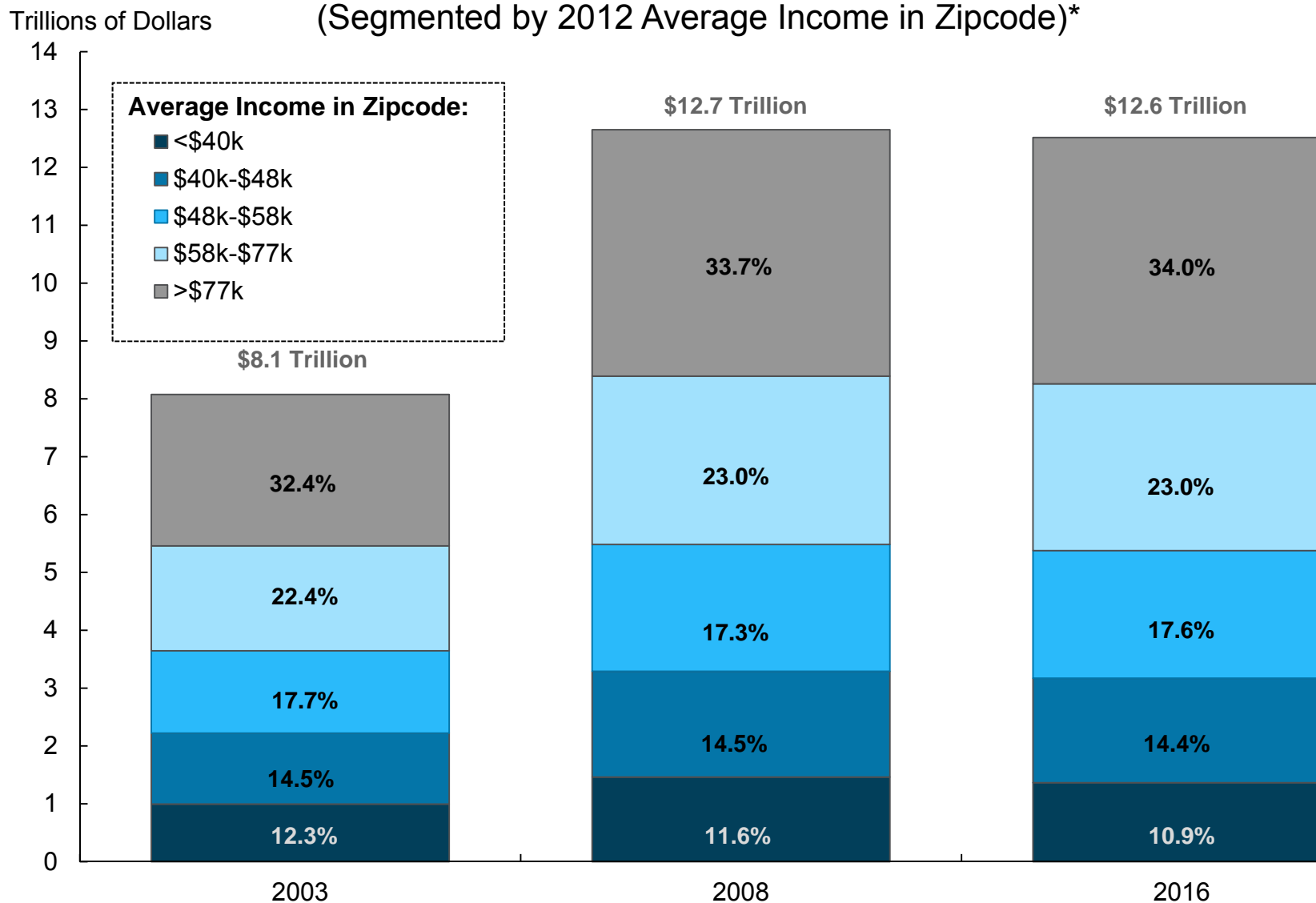
Legend: 18-29 · 30-39 · 40-49 · 50-59 · 60+

Mortgage

Credit Card

Auto Loan

Student Loan

*data for 4th quarter of each year

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Slight Increase in Debt Share of Borrowers from Higher-Income Areas

Total Balances by Average Local Income
(Segmented by 2012 Average Income in Zipcode)*

Trillions of Dollars

Average Income in Zipcode:
- ■ <$40k
- ■ $40k-$48k
- ■ $48k-$58k
- ☐ $58k-$77k
- ■ >$77k

2003 — $8.1 Trillion
- 32.4%
- 22.4%
- 17.7%
- 14.5%
- 12.3%

2008 — $12.7 Trillion
- 33.7%
- 23.0%
- 17.3%
- 14.5%
- 11.6%

2016 — $12.6 Trillion
- 34.0%
- 23.0%
- 17.6%
- 14.4%
- 10.9%

Source: New York Fed Consumer Credit Panel/Equifax; Internal Revenue Service
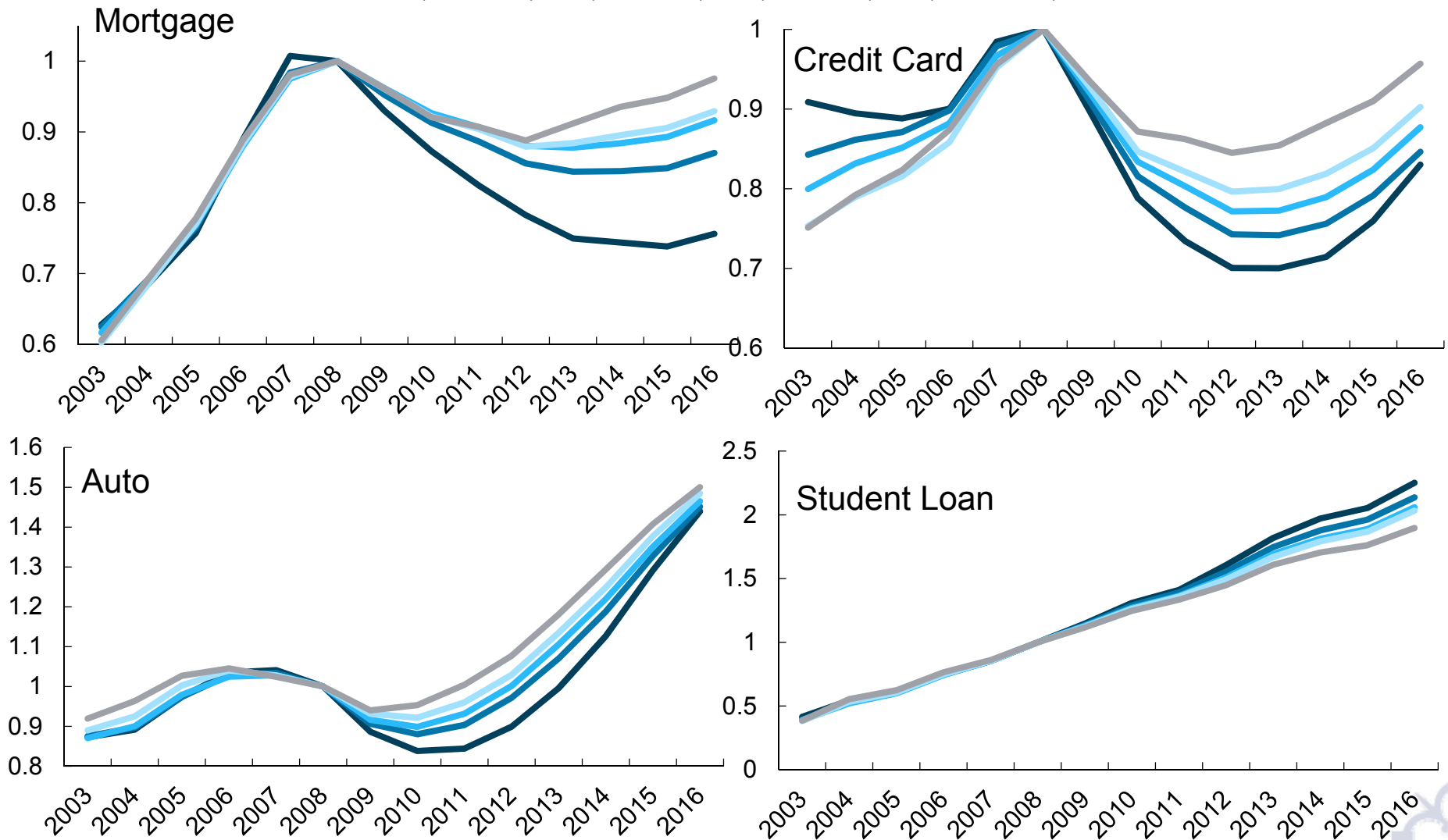
*data for 4th quarter of each year

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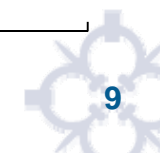
Underlying Shifts from Mortgages and Credit Cards to Student Loans for Borrowers from Lower-Income Areas

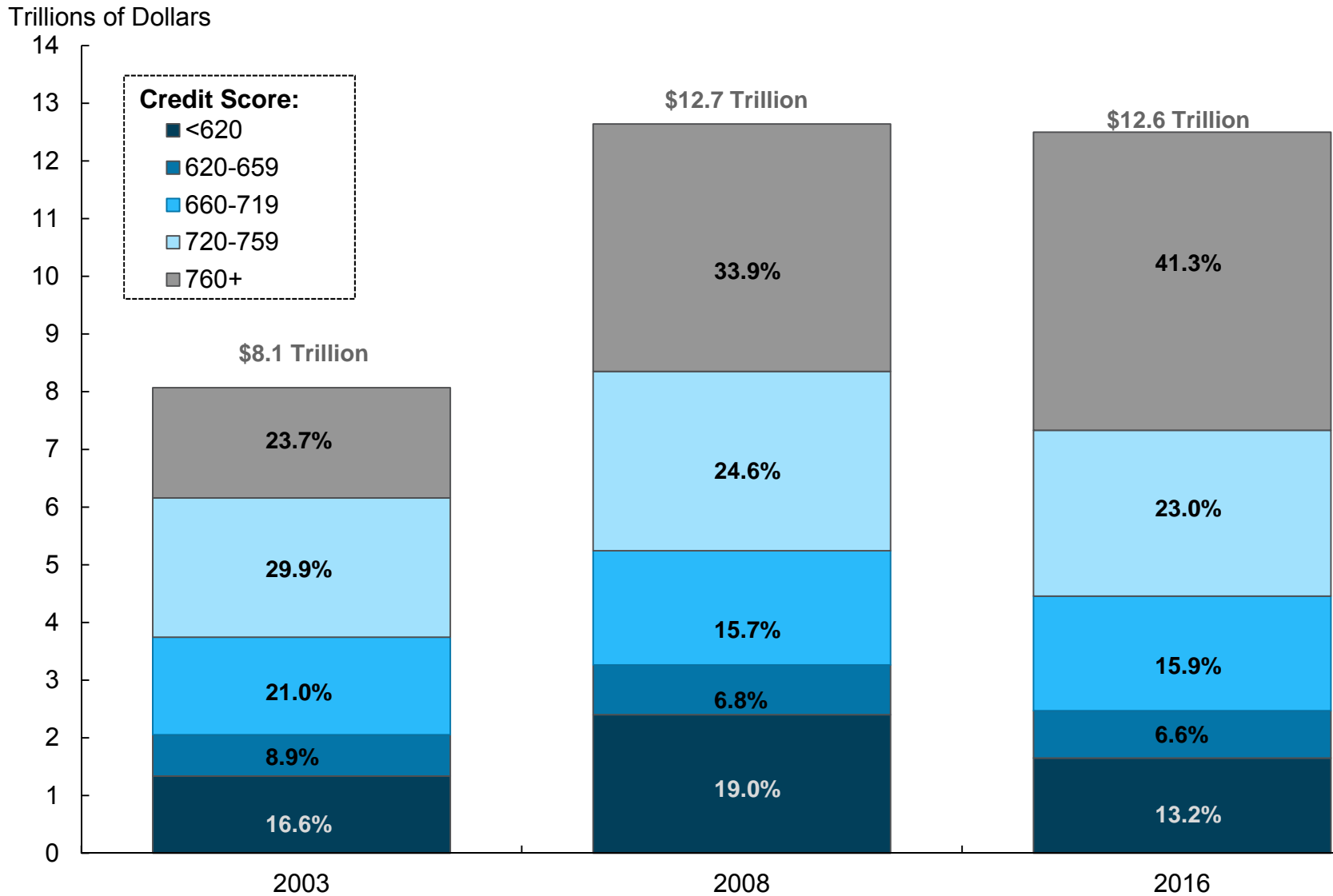Balances Relative to 2008 Peak, by Average Local Income

Legend: <$40k $40k-$48k $48k-$58k $58k-$77k >$77k

Mortgage

Credit Card

Auto

Student Loan

Source: New York Fed Consumer Credit Panel/Equifax

*data for 4th quarter of each year

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Super-Prime Borrowers Increase Share as Subprime Tally Eases

Total Balances by Credit Score

Trillions of Dollars

Credit Score:
- ■ <620
- ■ 620-659
- ■ 660-719
- ■ 720-759
- ■ 760+

2003 — $8.1 Trillion
- 23.7%
- 29.9%
- 21.0%
- 8.9%
- 16.6%

2008 — $12.7 Trillion
- 33.9%
- 24.6%
- 15.7%
- 6.8%
- 19.0%

2016 — $12.6 Trillion
- 41.3%
- 23.0%
- 15.9%
- 6.6%
- 13.2%

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As Credit Quality Improves, Certain Delinquency Rates Fall
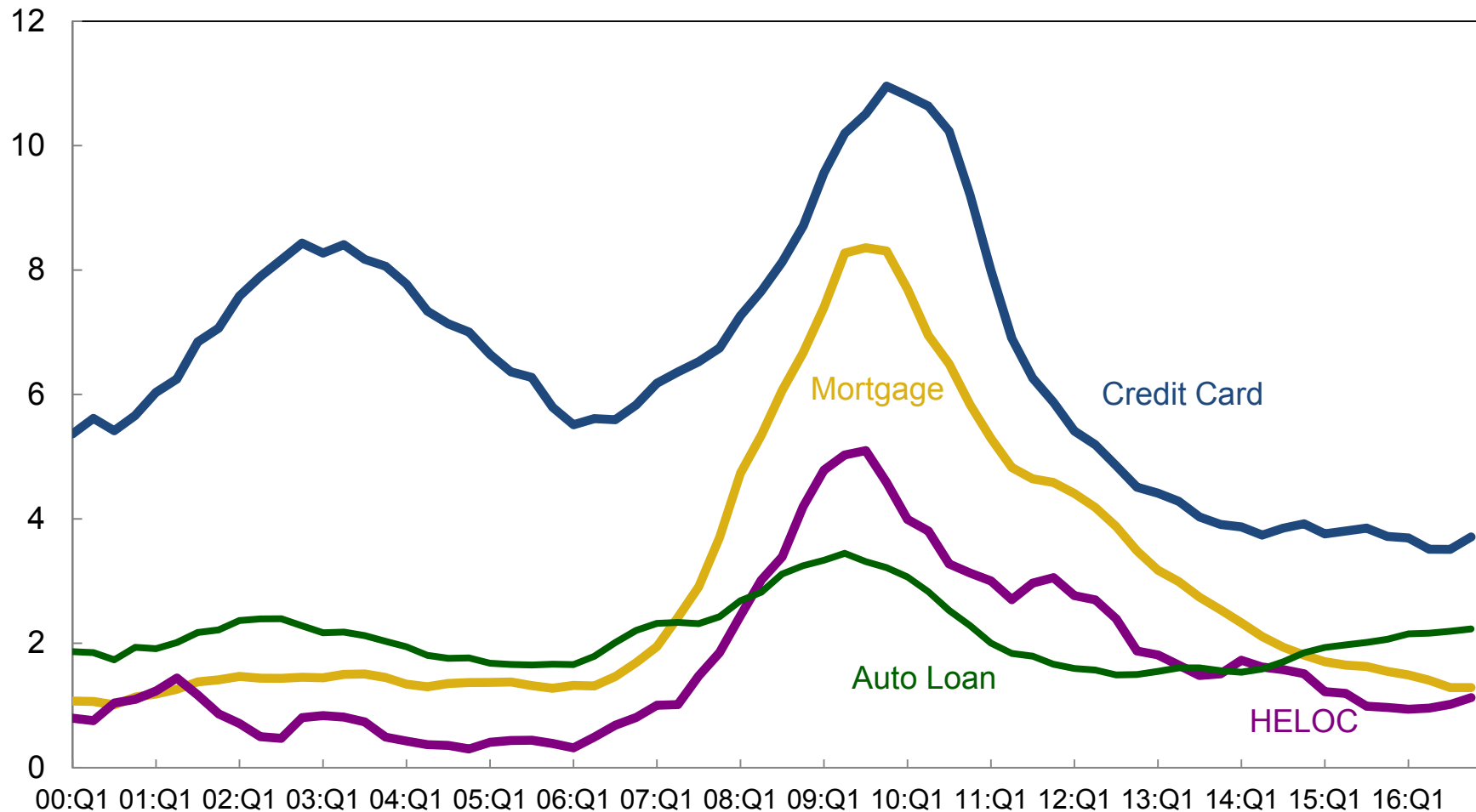
Percent of Balance 90+ Days Delinquent
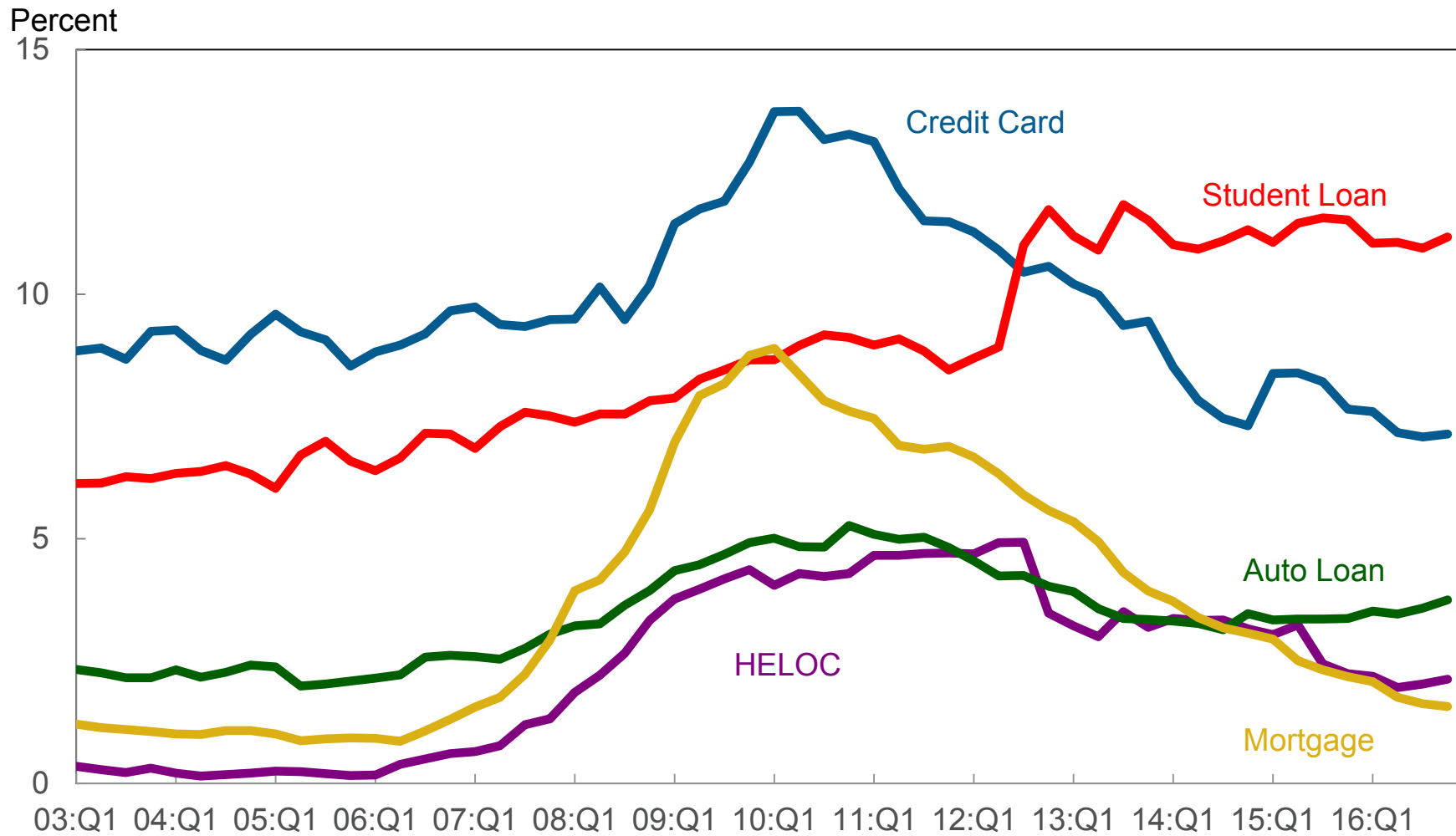
Source: New York Fed Consumer Credit Panel/Equifax

Most Transition Rates to Delinquency Falling to Levels of Early 2000s or Below

Fraction newly 90+ days delinquent (annual rate)

Percent of Balance

Source: New York Fed Consumer Credit Panel/Equifax

Bankruptcies and Foreclosures Reach Historical Lows

Number of Consumers with New Foreclosures and Bankruptcies

Thousands

Legend: ■ Foreclosures ■ Bankruptcies

X-axis: 03:Q1, 04:Q1, 05:Q1, 06:Q1, 07:Q1, 08:Q1, 09:Q1, 10:Q1, 11:Q1, 12:Q1, 13:Q1, 14:Q1, 15:Q1, 16:Q1

Y-axis: 0, 300, 600, 900, 1,200
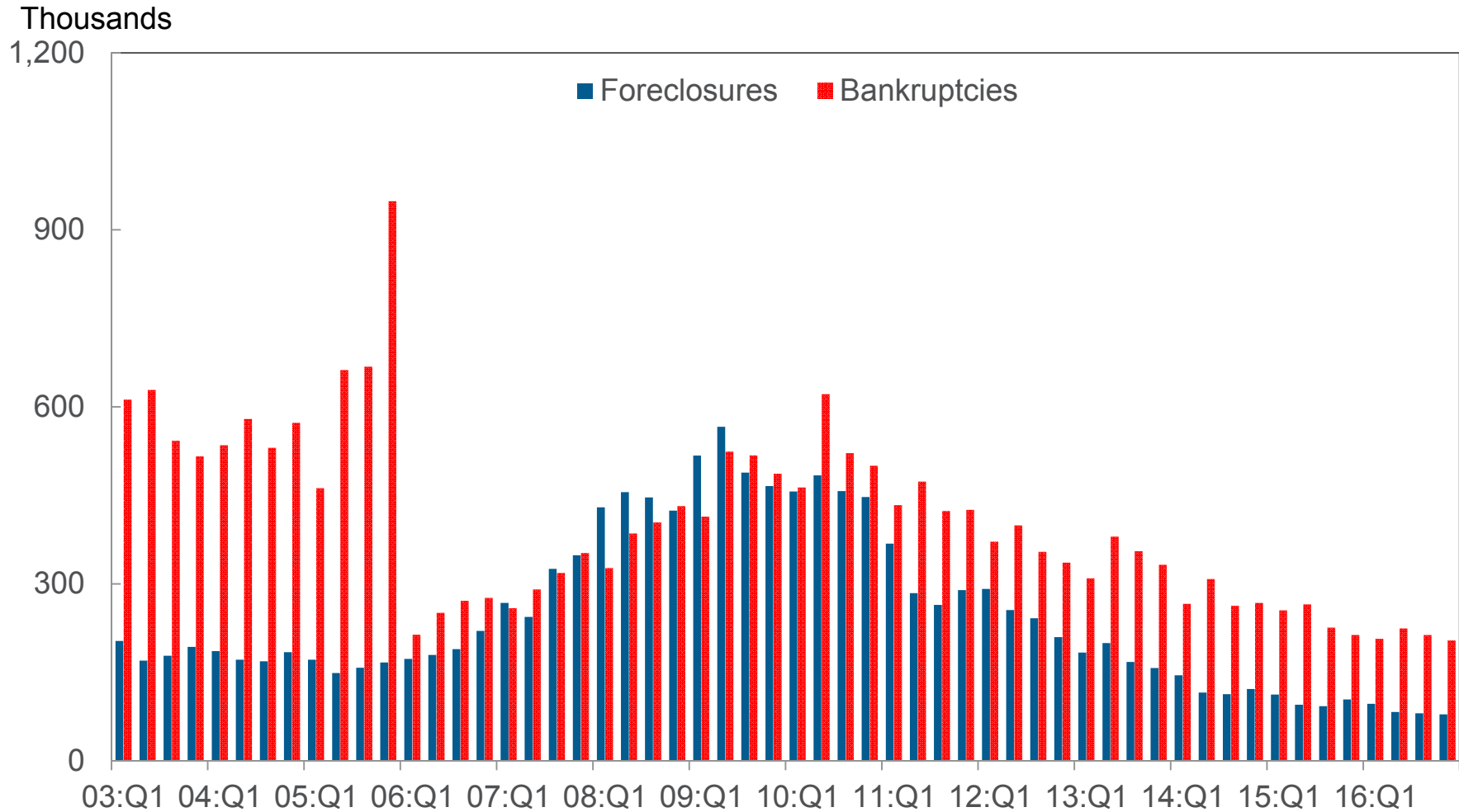
Summary

- Total household debt is just within $100B of its 2008 peak
  - Mortgage balance growth remains sluggish, while non-housing balances have increased sharply (esp. student and auto loans)
- Significant shift in who holds debt to older (ages 60 and older), more creditworthy borrowers
  - Attributable to both changing demographics and a real shift in borrowing
- Delinquencies are generally improving; bankruptcies and foreclosures are declining
- These trends reflect improved stability and resiliency of household sector overall

  … but important shift in borrowing by youngest towards student debt, with high delinquency rate
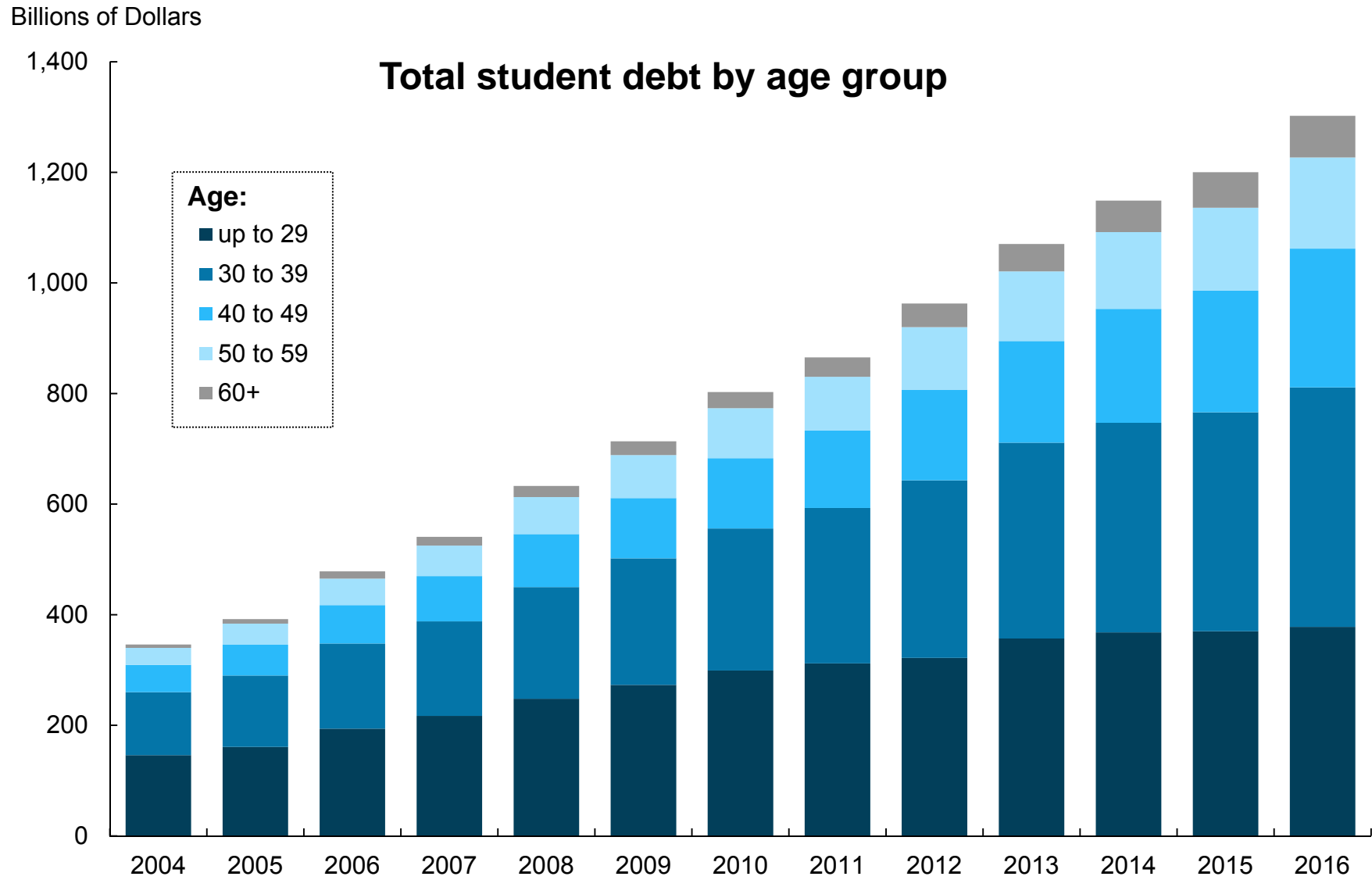
Recent Trends in Student Loan Borrowing, Delinquency and Repayment

Questions

- Overall student debt in the US:
  - Who is borrowing and how much?
  - Are recent graduates leaving school with more debt?
- Updates on student loan defaults:
  - Who has a bigger risk?
  - Does student loan default have a consequence on home borrowing?
- How much payment progress do borrowers make? Who pays down more?

Student Loan Balances

Student Debt Totaled $1.3 Trillion in 2016, Up 170% from 2006

Billions of Dollars

Total student debt by age group

Age:
- up to 29
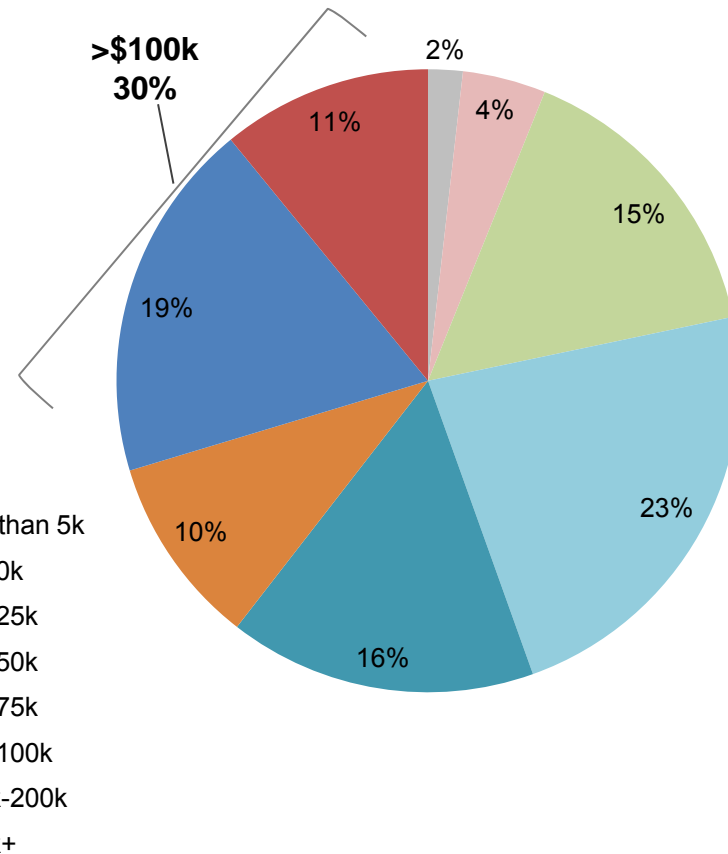- 30 to 39
- 40 to 49
- 50 to 59
- 60+

5% of Borrowers Have More Than $100,000 Debt in 2016, But Account For About 30% of Total Debt

Borrower Distribution by Outstanding Balance
out of 44 million borrowers in 2016

>$100k
5%

- 1%
- 4%
- 3%
- 8%
- 19%
- 28%
- 17%
- 20%
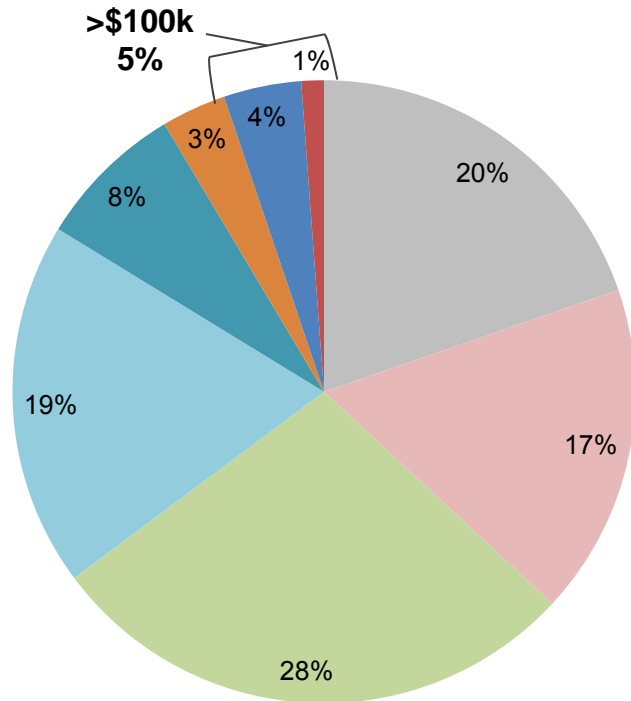
Debt Distribution by Outstanding Balance
out of $1.3 trillion in 2016

>$100k
30%

- 2%
- 4%
- 15%
- 23%
- 16%
- 10%
- 19%
- 11%

Legend:
- less than 5k
- 5k-10k
- 10k-25k
- 25k-50k
- 50k-75k
- 75k-100k
- 100k-200k
- 200k+

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More Borrowers and Larger Balances

Millions of Borrowers

Balance

Borrower Cohorts and Balances at School Leaving

Legend: ▬ borrowers — school-leaving balance

Left axis (Millions of Borrowers): 0, 1, 2, 3, 4, 5

Right axis (Balance): $0, $5,000, $10,000, $15,000, $20,000, $25,000, $30,000, $35,000, $40,000

Years: 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015
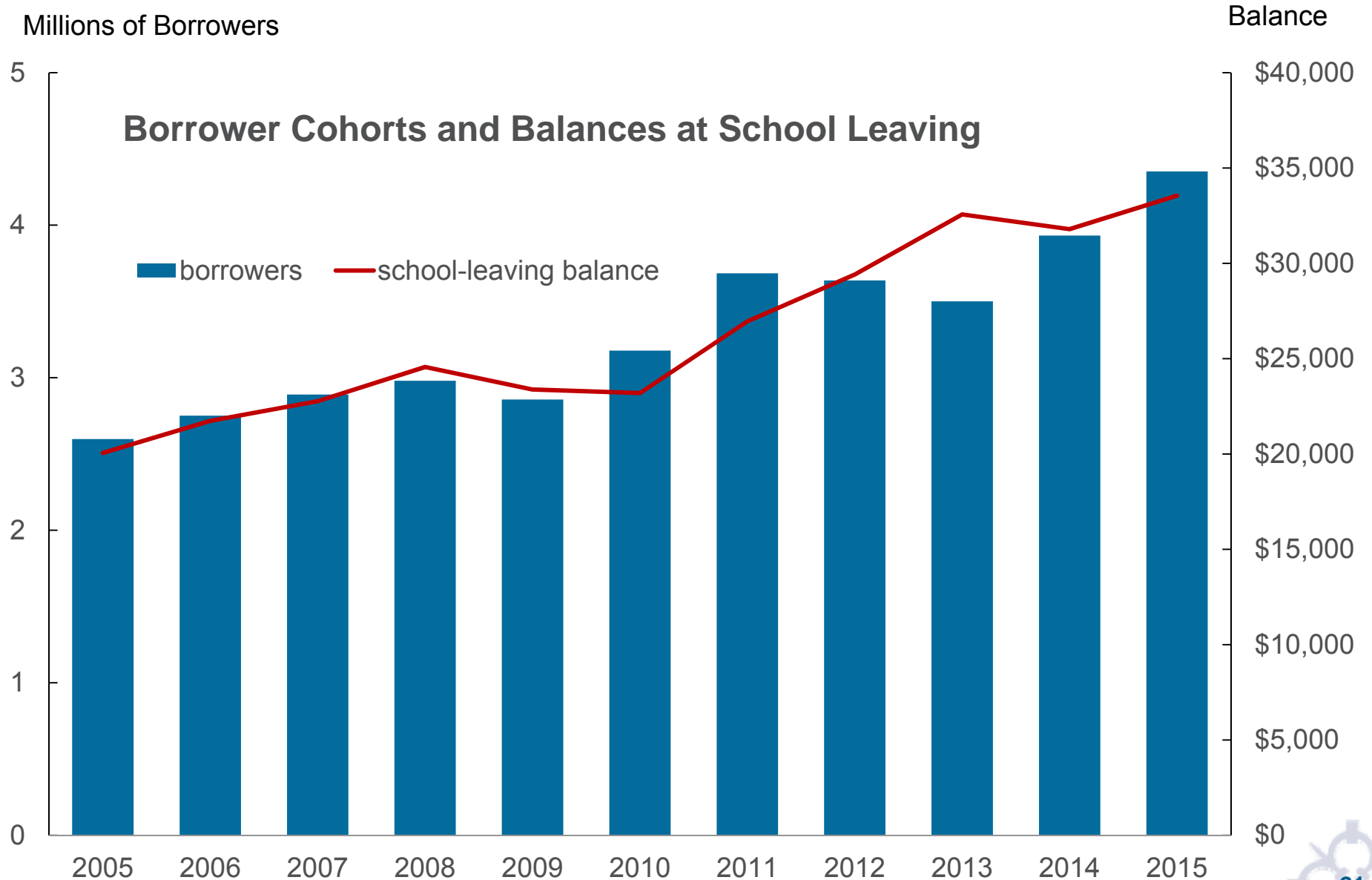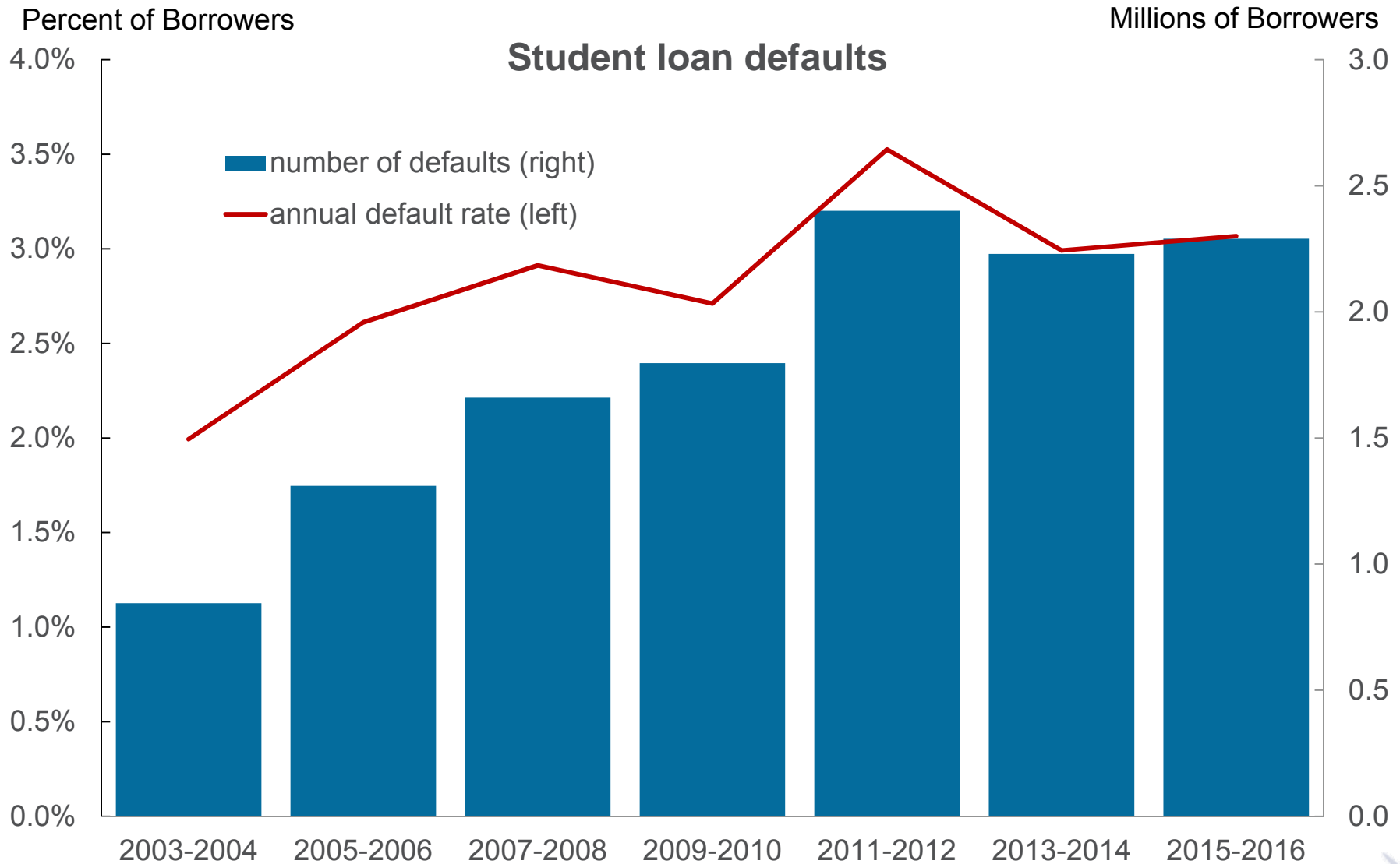
Source: New York Fed Consumer Credit Panel/Equifax

Student Debt Overview

- Student debt was $1.3 trillion at the end of 2016, an increase of about 170% from 2006.

- Aggregate student debt is increasing because:
  - More students are taking out loans
  - Loans are for larger amounts
  - Repayment rates have slowed down

- About 5% of the borrowers have more than $100,000 debt in 2016, but they account for about 30% of the total debt.

- Recent graduates with student loans leave school with about $34,000, up nearly 70% from 10 years ago.

Student Loan Defaults
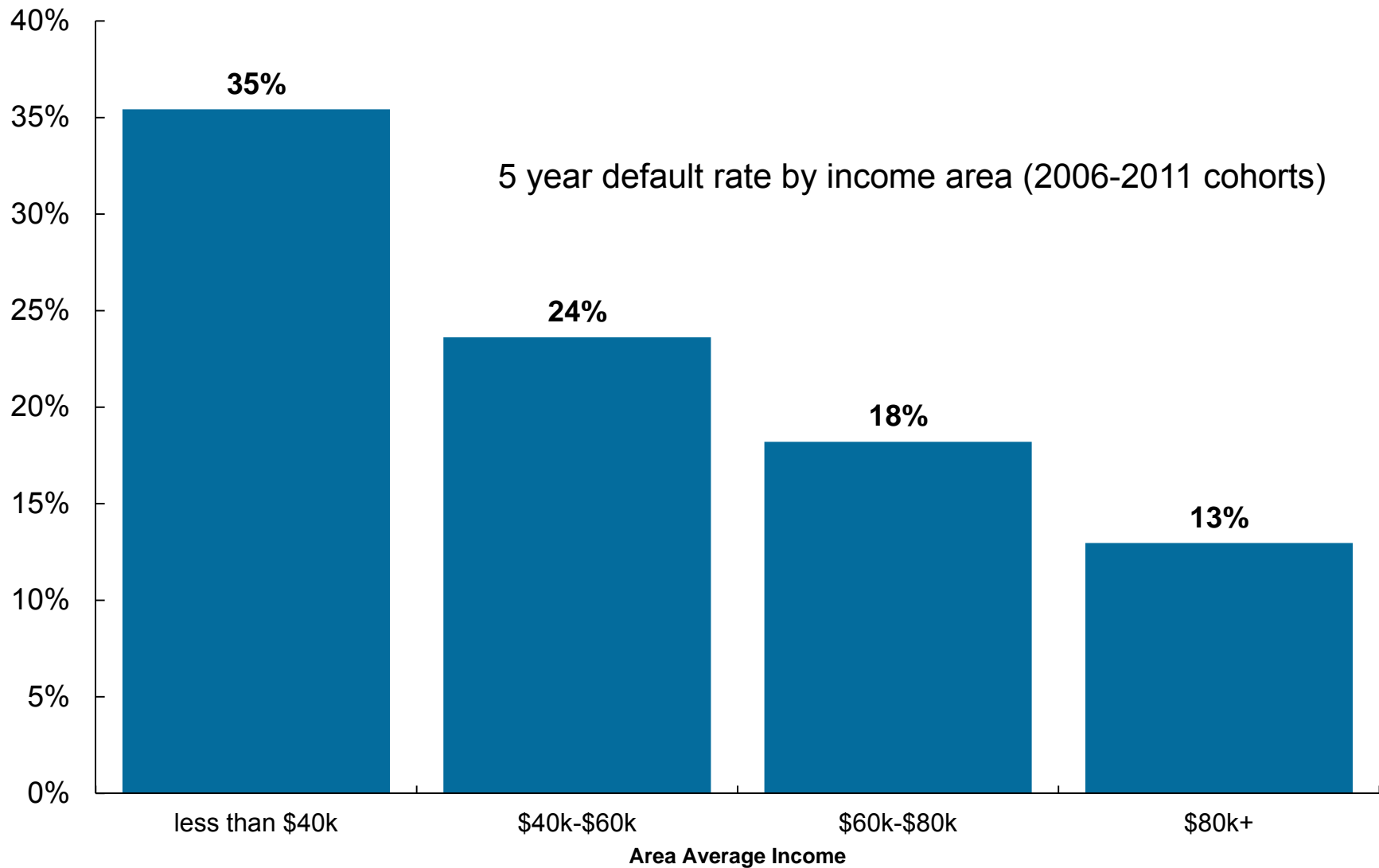
Student Loan Defaults Peaked in 2011-2012

Percent of Borrowers

Millions of Borrowers

Student loan defaults

- number of defaults (right)
- annual default rate (left)

Source: New York Fed Consumer Credit Panel/Equifax

Highest Default Rate from 2011 Cohort;
2013 Cohort Shows Improvement

Percent

2011 cohort

2009 cohort

2007 cohort

2013 cohort

2005 cohort
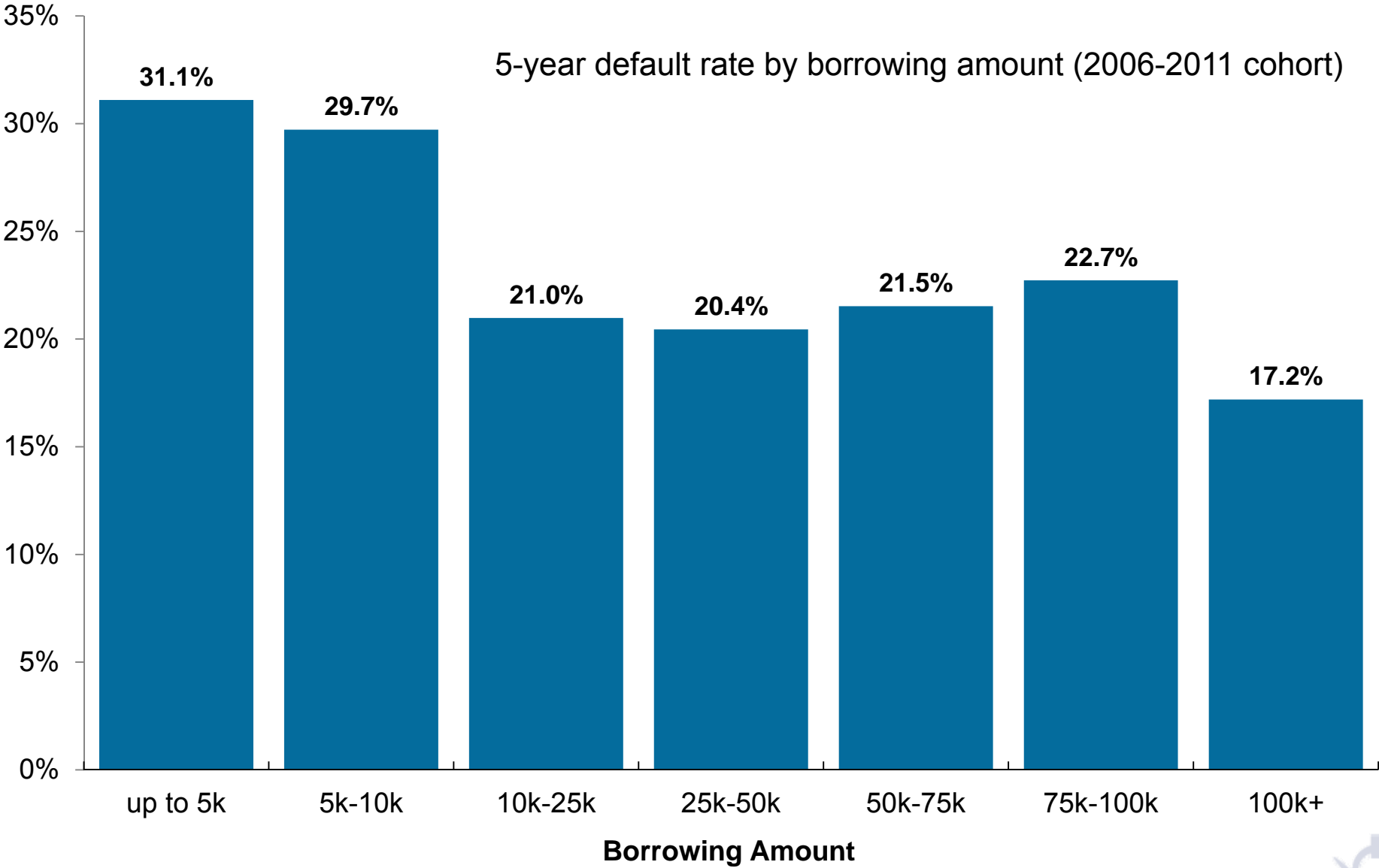
Cohort default rate*

Years After Leaving School
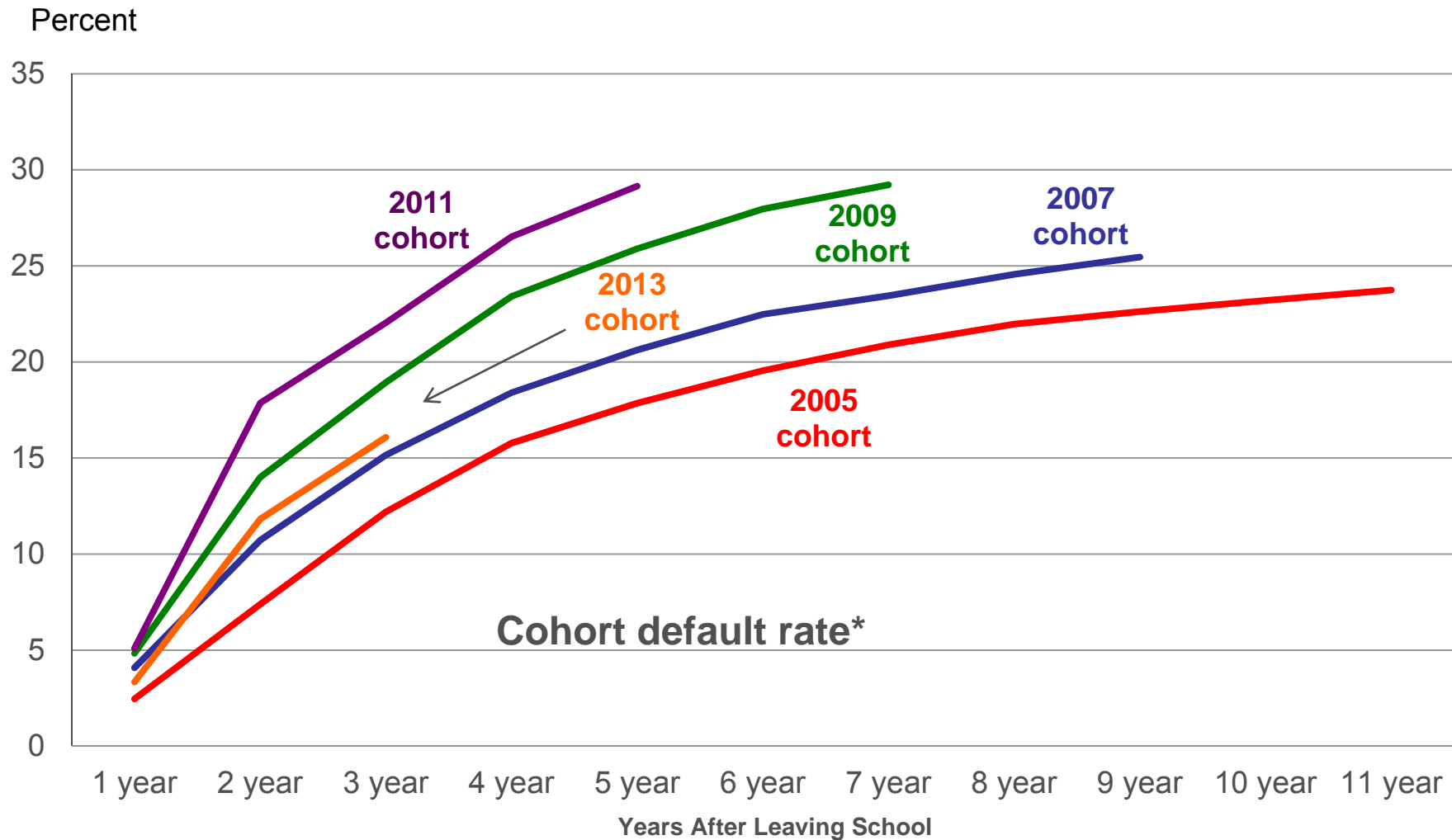
* Borrowers are assigned to cohorts based on the last academic year of borrowing.
Source: New York Fed Consumer Credit Panel/Equifax

Higher Default Rates Among Borrowers from Lower Income Areas

5 year default rate by income area (2006-2011 cohorts)

Area Average Income	Default Rate
less than $40k	35%
$40k-$60k	24%
$60k-$80k	18%
$80k+	13%

Area Average Income

Source: New York Fed Consumer Credit Panel/Equifax, Internal Revenue Service

Higher Default Rates Among Lower-Balance Borrowers

5-year default rate by borrowing amount (2006-2011 cohort)

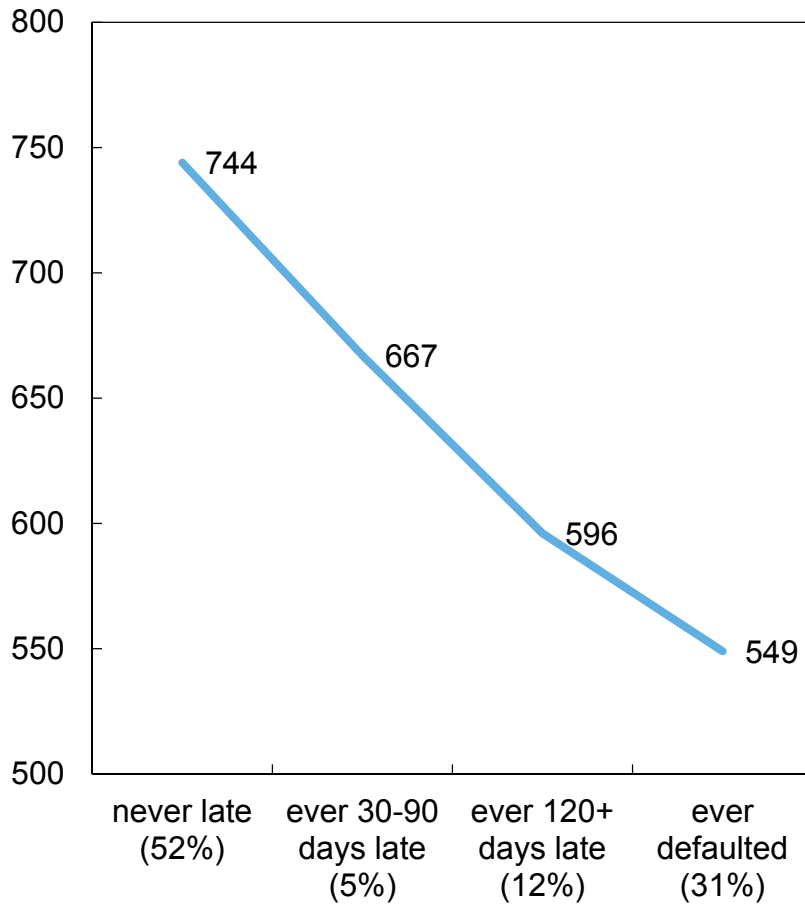| Borrowing Amount	Default Rate
up to 5k	31.1%
5k-10k	29.7%
10k-25k	21.0%
25k-50k	20.4%
50k-75k	21.5%
75k-100k	22.7%
100k+	17.2%

Source: New York Fed Consumer Credit Panel/Equifax

Increasing Default Rate for Higher Balance Borrowers in Recent Cohorts

5-year default rate of high-balance borrowers by school-leaving cohort
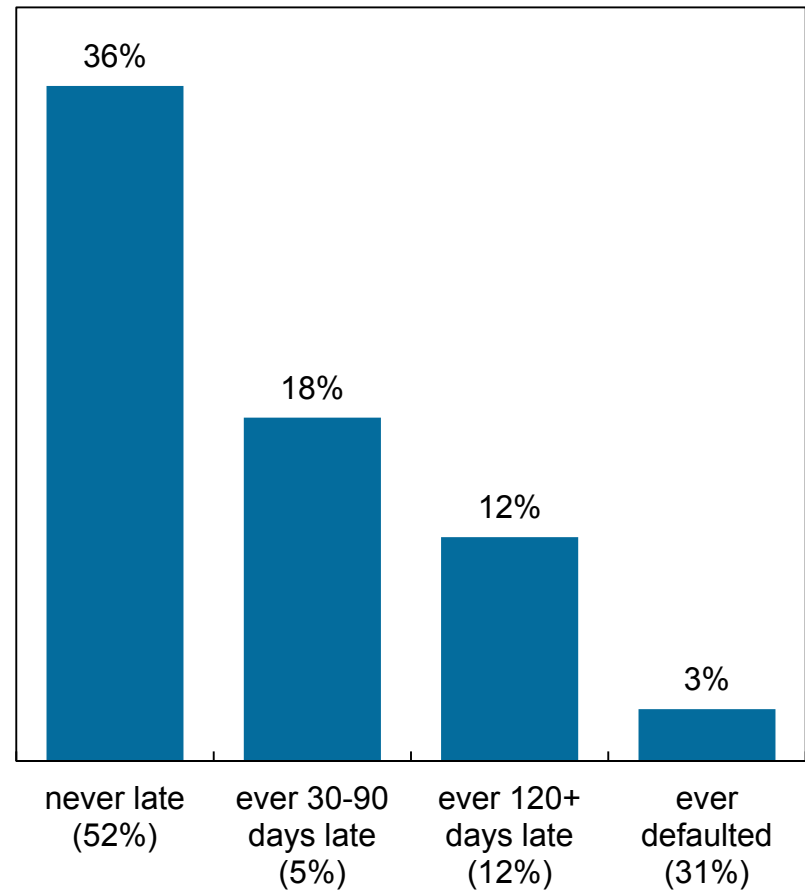

$100k+ borrowers
- 2005-2006: 6%
- 2007-2009: 17%
- 2010-2011: 21%

all borrowers
- 2005-2006: 19%
- 2007-2009: 23%
- 2010-2011: 28%

School-Leaving Cohorts

Source: New York Fed Consumer Credit Panel/Equifax
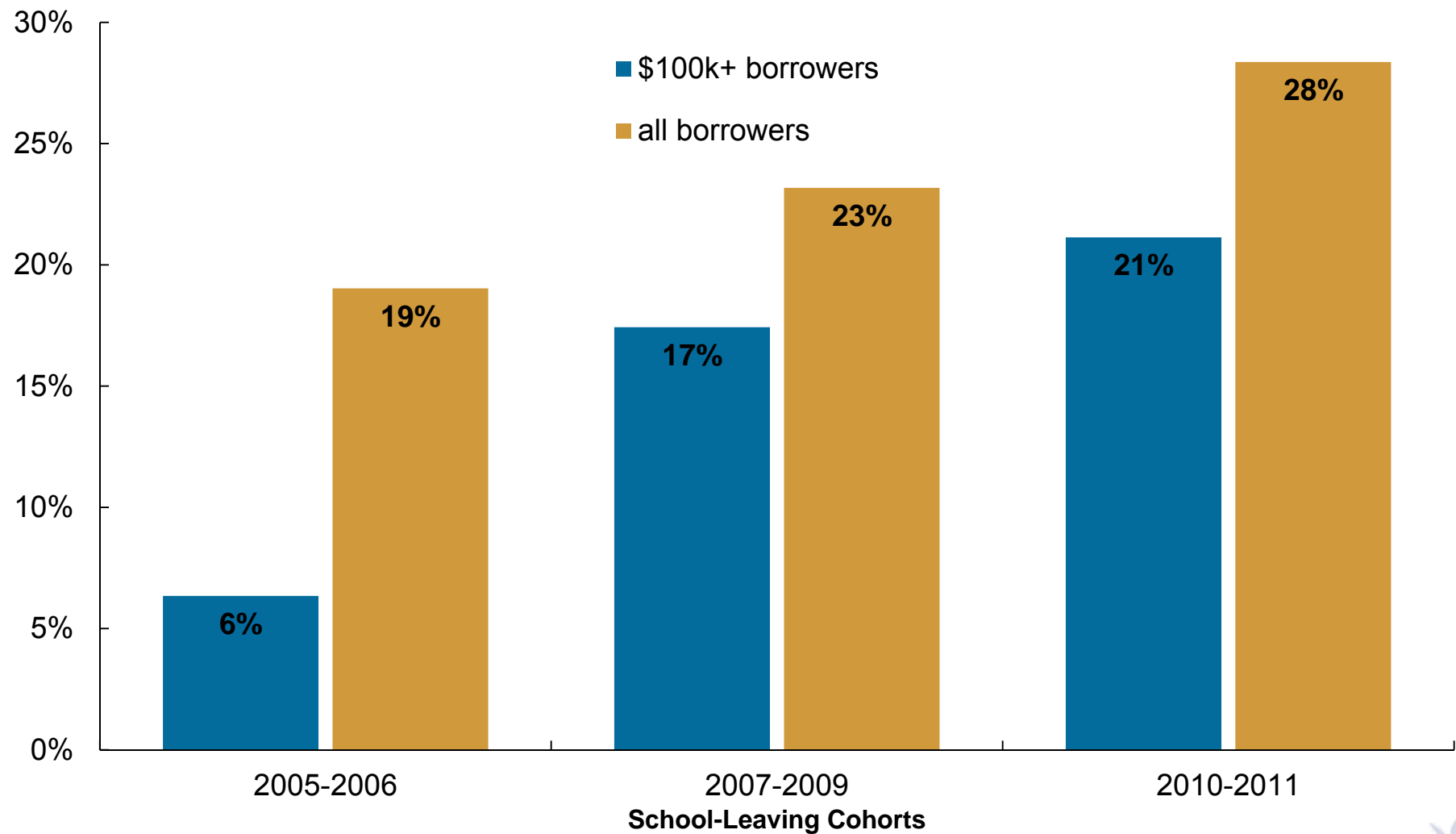
Delinquency and Default Associated with Lower Credit Scores and Homeownership Rates at Age 30

Median Credit Score in 2016*

- never late (52%): 744
- ever 30-90 days late (5%): 667
- ever 120+ days late (12%): 596
- ever defaulted (31%): 549

Homeownership in 2016*

- never late (52%): 36%
- ever 30-90 days late (5%): 18%
- ever 120+ days late (12%): 12%
- ever defaulted (31%): 3%

* Among borrowers who were age 30 in 2016 and left school between 2006-2011.

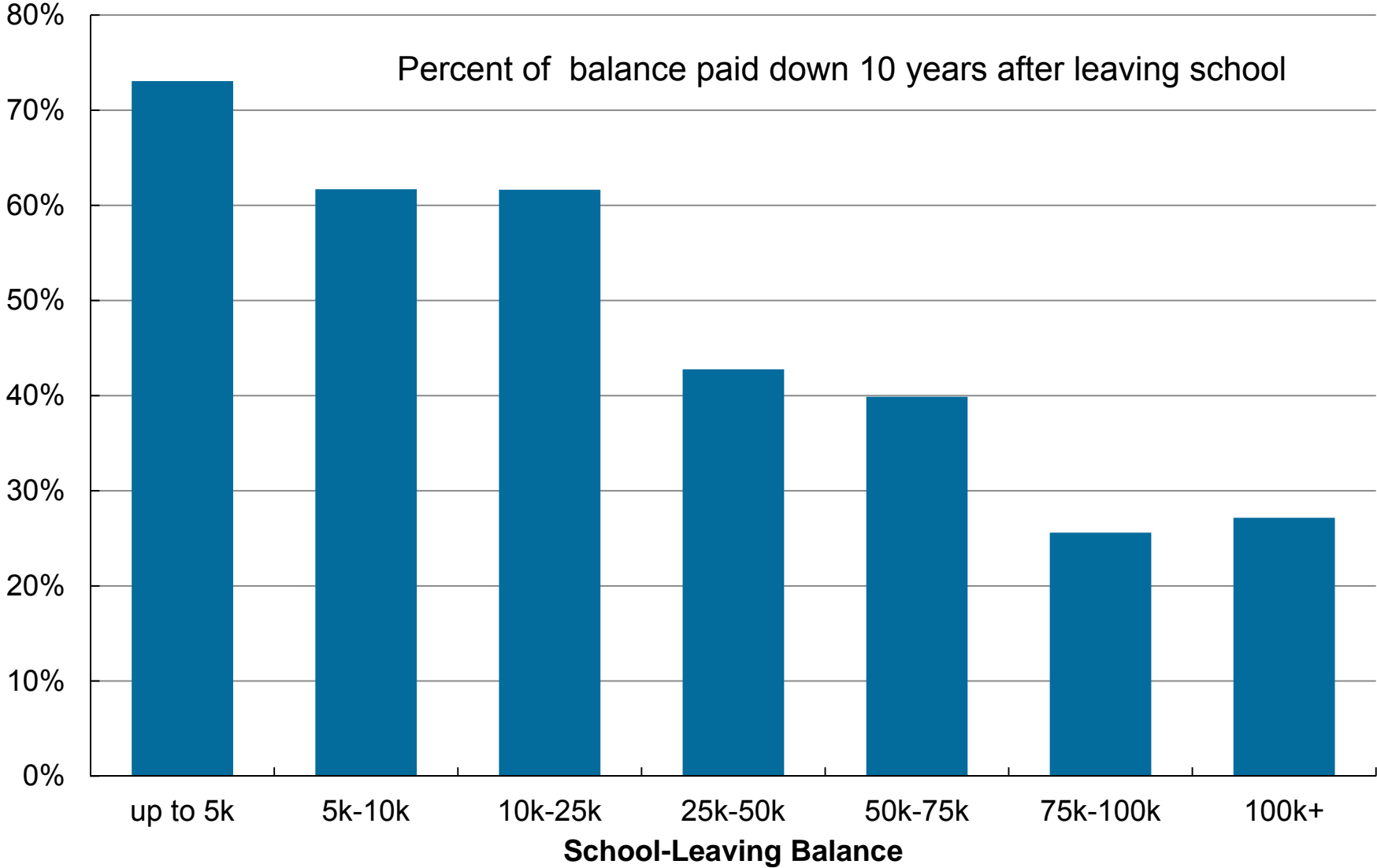*Source: New York Fed Consumer Credit Panel/Equifax*

Student Debt Defaults

- Student loan default rates increased until 2012 and have stabilized since 2013.

- About 30% of the borrowers have defaulted among 2009-2011 graduates, but more recent cohorts have performed better so far.

- Those with higher student debt are now much more likely to default than in the past.

- Borrowers from lower income areas default more.

Student Loan Repayment Success

Lower Repayment Rates for Recent Cohorts
5 Years After Leaving School

5-year payment progress by school-leaving cohort
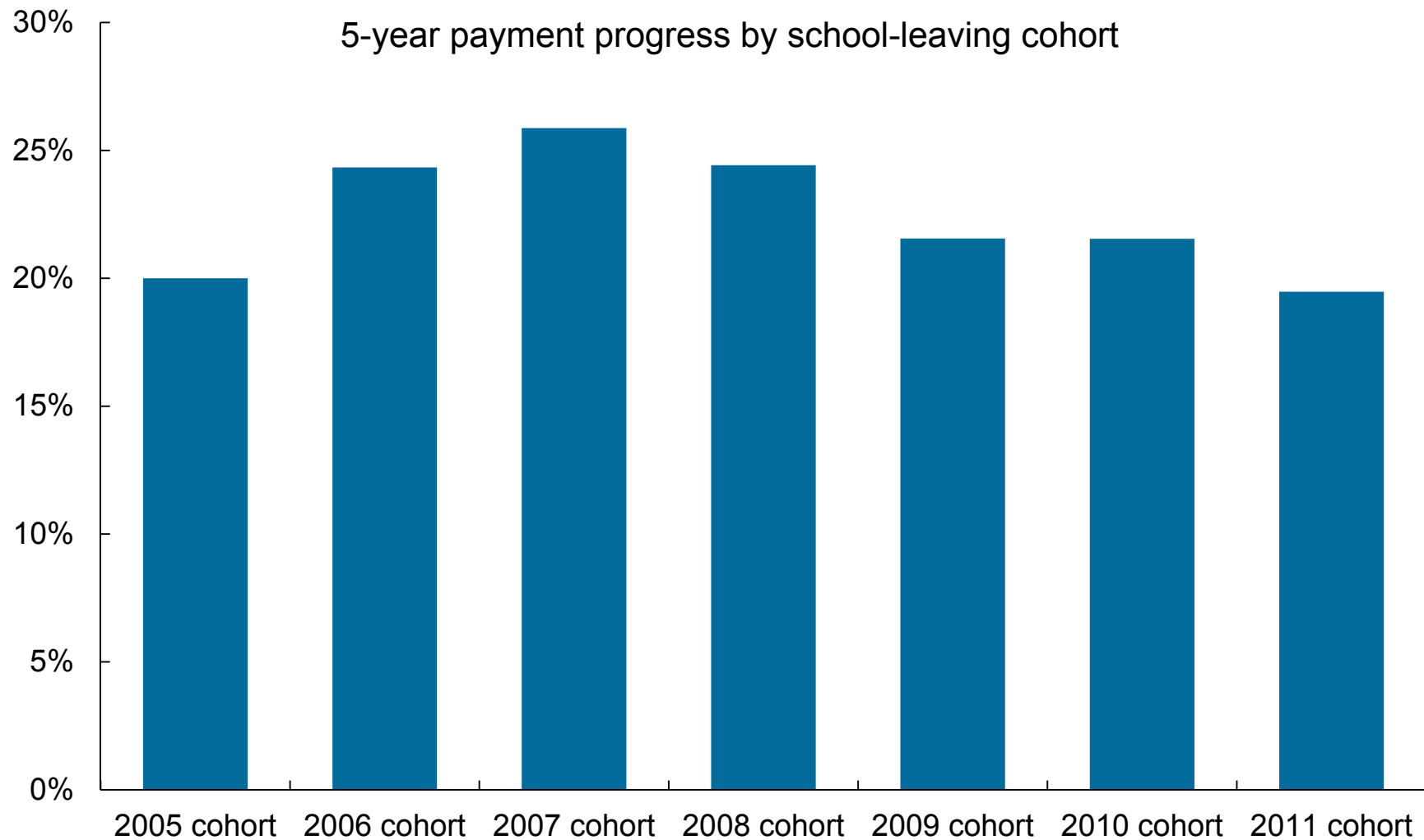
Slower Repayment Rates Among Higher-Balance Borrowers

Percent of balance paid down 10 years after leaving school

School-Leaving Balance

Payment progress

- Payment progress is slower among those who borrowed more.

- Payment progress is slower for more recent graduates due to higher borrowing amounts and higher default rates. Participation in new accommodative payment plans such as Income Based Repayment might account for the slow progress as well.

- High rates of student loan defaults and delinquencies are associated with slower payment progress as well.

Summary

- Three factors pushing up aggregate student loan balances are higher borrowing amounts, increasing participation among students, and slower repayment.

- Defaults peaked among those who left school in 2011 and appear to have improved for later cohorts, but the longer-term performance remains to be seen.

- Payment progress continues to decline due to higher burden of student debt.

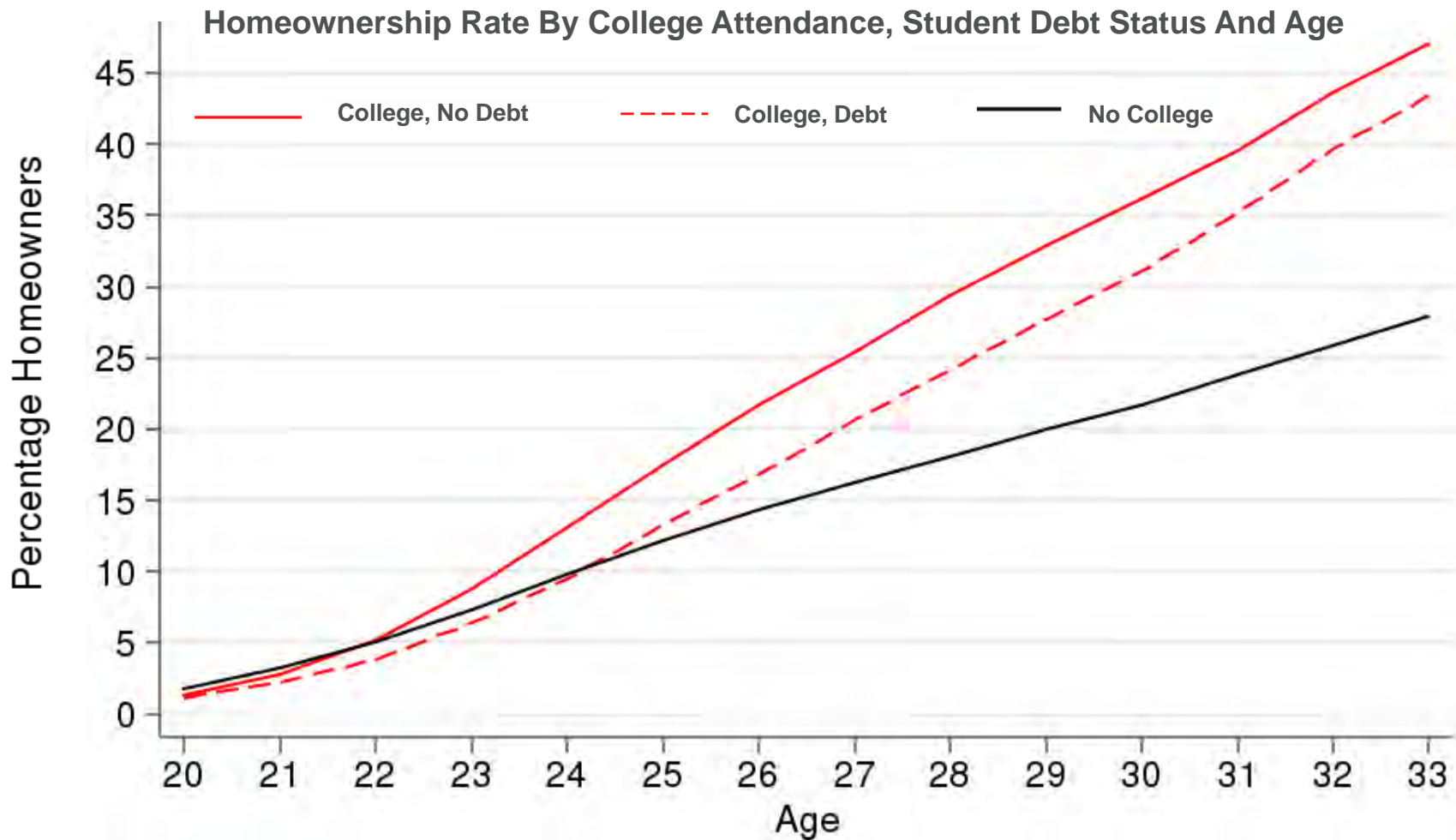# Homeownership, Student Debt and Educational Attainment

Outline

- Large increase in student debt in past two decades

- Critical to understand whether student debt holdings have affected young Americans' later life outcomes

- Deviate from previous research by analyzing homeownership by (rich measures of) educational attainment and student debt

- Leverage a unique merger of two datasets
  - New York Fed Consumer Credit Panel and National Student Clearinghouse
  - Track student debt holdings and educational attainment measures over time
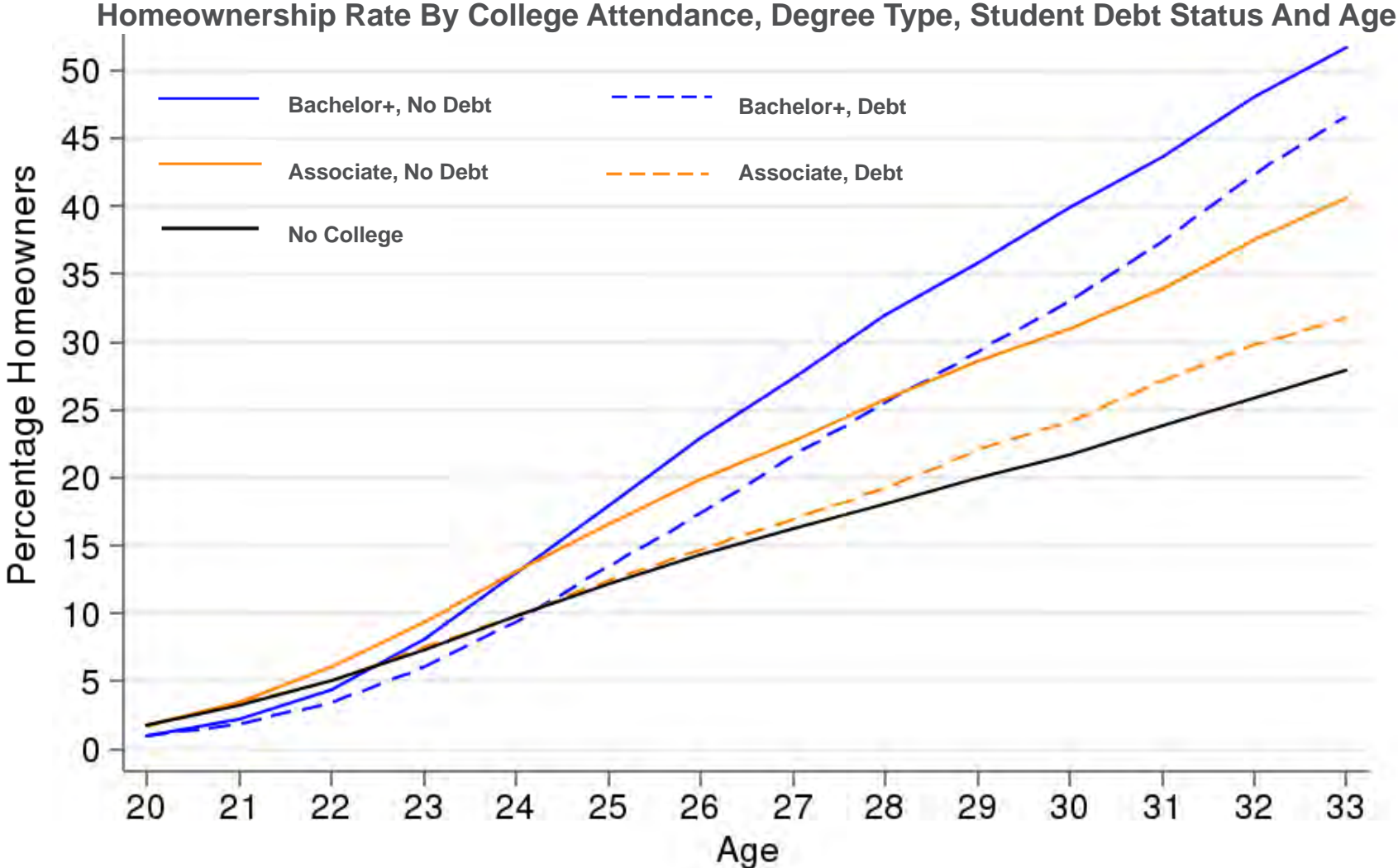 - Focus on 1980-86 birth cohorts

Questions We Ask

- Is homeownership related to college attendance and student debt?

- Does college type and degree matter for the relationship between student debt and homeownership?

- Does graduation matter?

- Is the amount of student debt holding associated with the propensity to own a home?
  - Homeownership defined as ever having a mortgage by that age
  - Reliable proxy as all-cash purchases rare among young homebuyers

- Does the association between homeownership and education vary with family background?
  - Family background proxied by 2010 zipcode level mean income associated with youngest age at which we observe an individual

- Relationships are descriptive and suggestive, but *not causal*

College Attendance Associated With Markedly Higher Homeownership

Homeownership Rate By College Attendance, Student Debt Status And Age

Legend: College, No Debt — College, Debt --- No College —

Y-axis: Percentage Homeowners (0, 5, 10, 15, 20, 25, 30, 35, 40, 45)

X-axis: Age (20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33)

Bachelor's Students Have Higher Homeownership Rates Than Associates, Regardless Of Debt Status

Homeownership Rate By College Attendance, Degree Type, Student Debt Status And Age

Legend:
- Bachelor+, No Debt (solid blue)
- Bachelor+, Debt (dashed blue)
- Associate, No Debt (solid orange)
- Associate, Debt (dashed orange)
- No College (solid black)

X-axis: Age (20 to 33)
Y-axis: Percentage Homeowners (0 to 50)

Bachelor's+ includes bachelor's and higher-level degrees. *Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse*

Graduates Have Higher Homeownership Rates, Regardless Of Debt Status

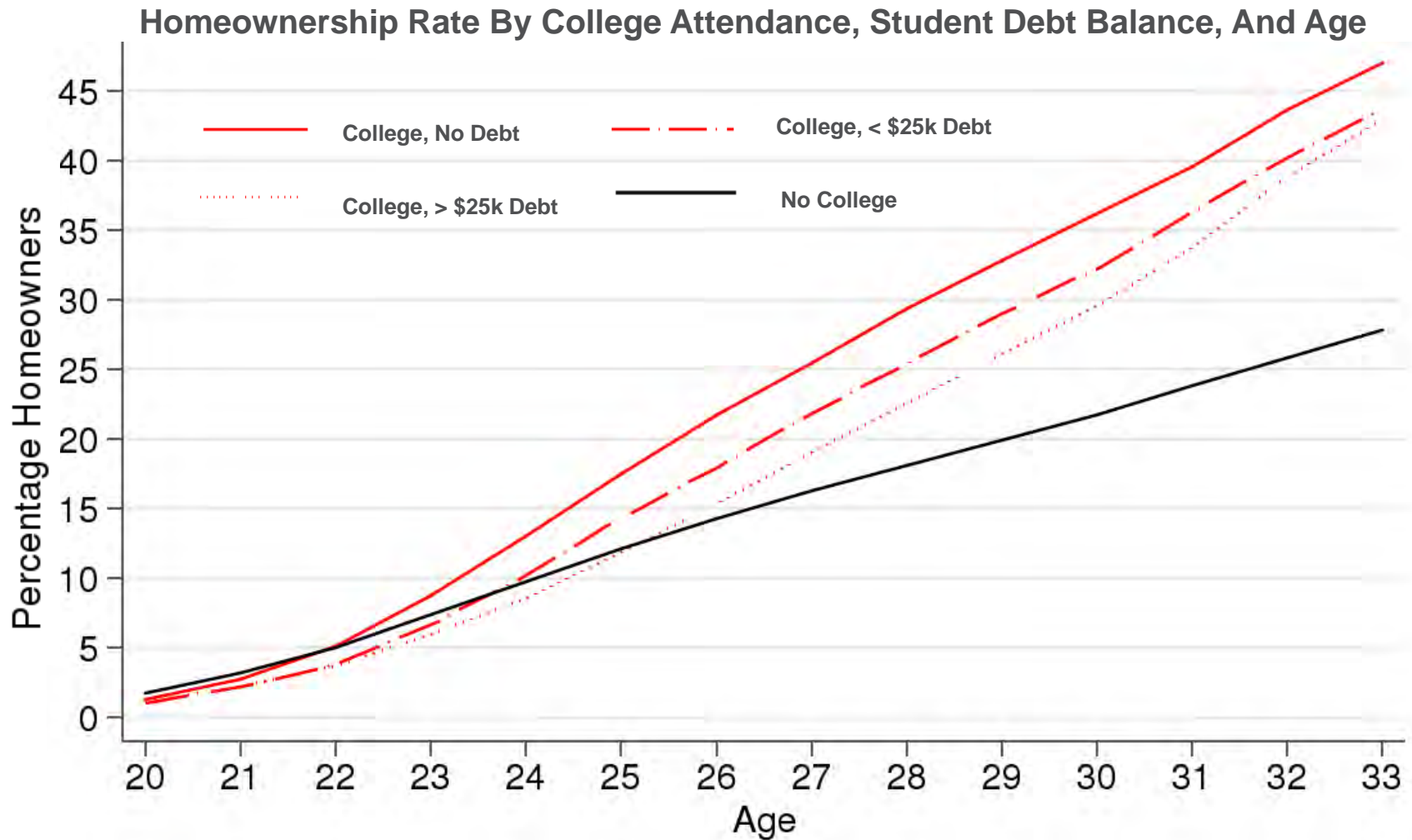**Homeownership Rate By College Attendance, Graduation Status, Student Debt Status And Age**
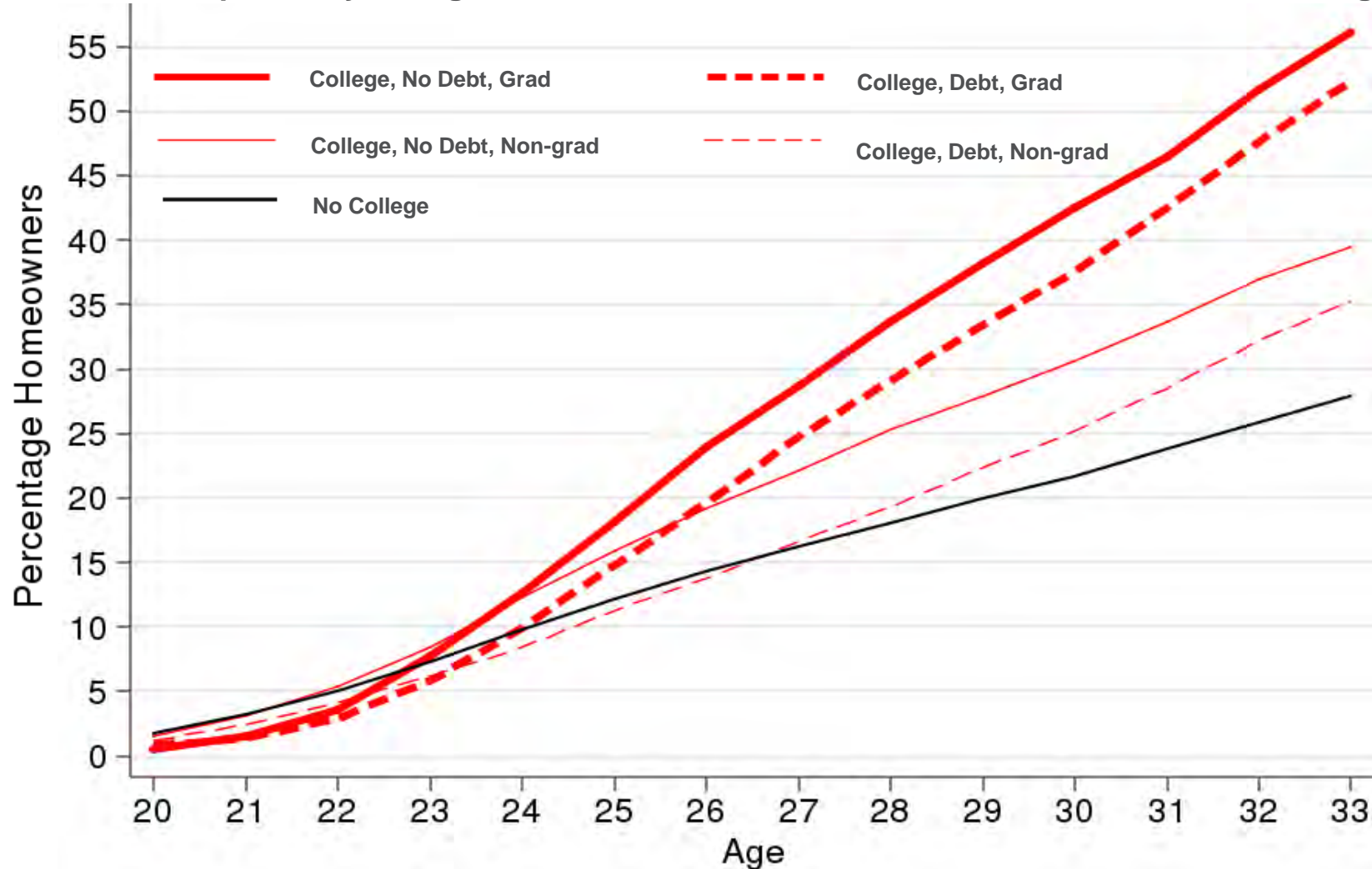
Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse

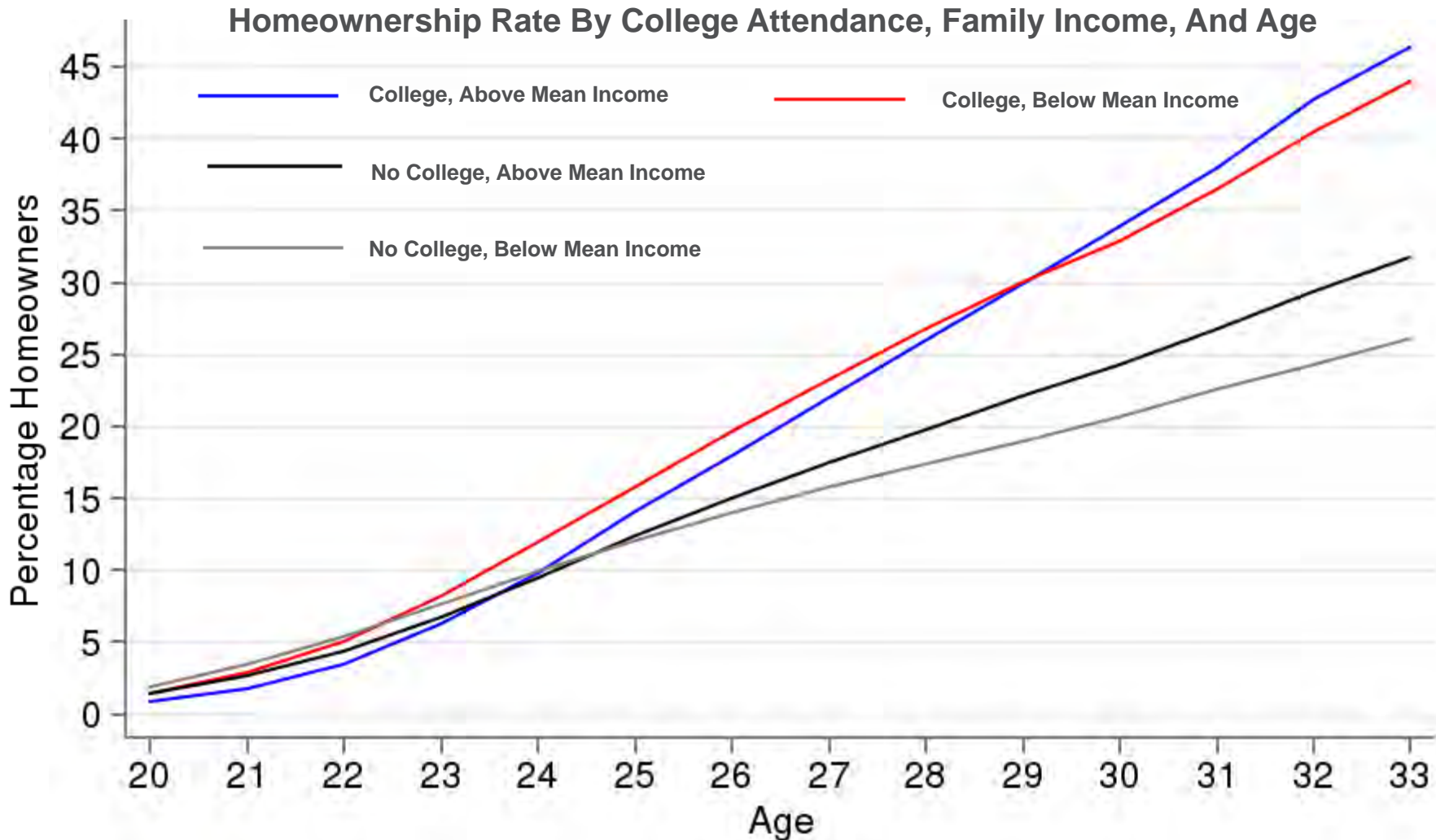# Homeownership Rates Of Associates' Non-graduates With Debt Similar To Those Of Non-attendees
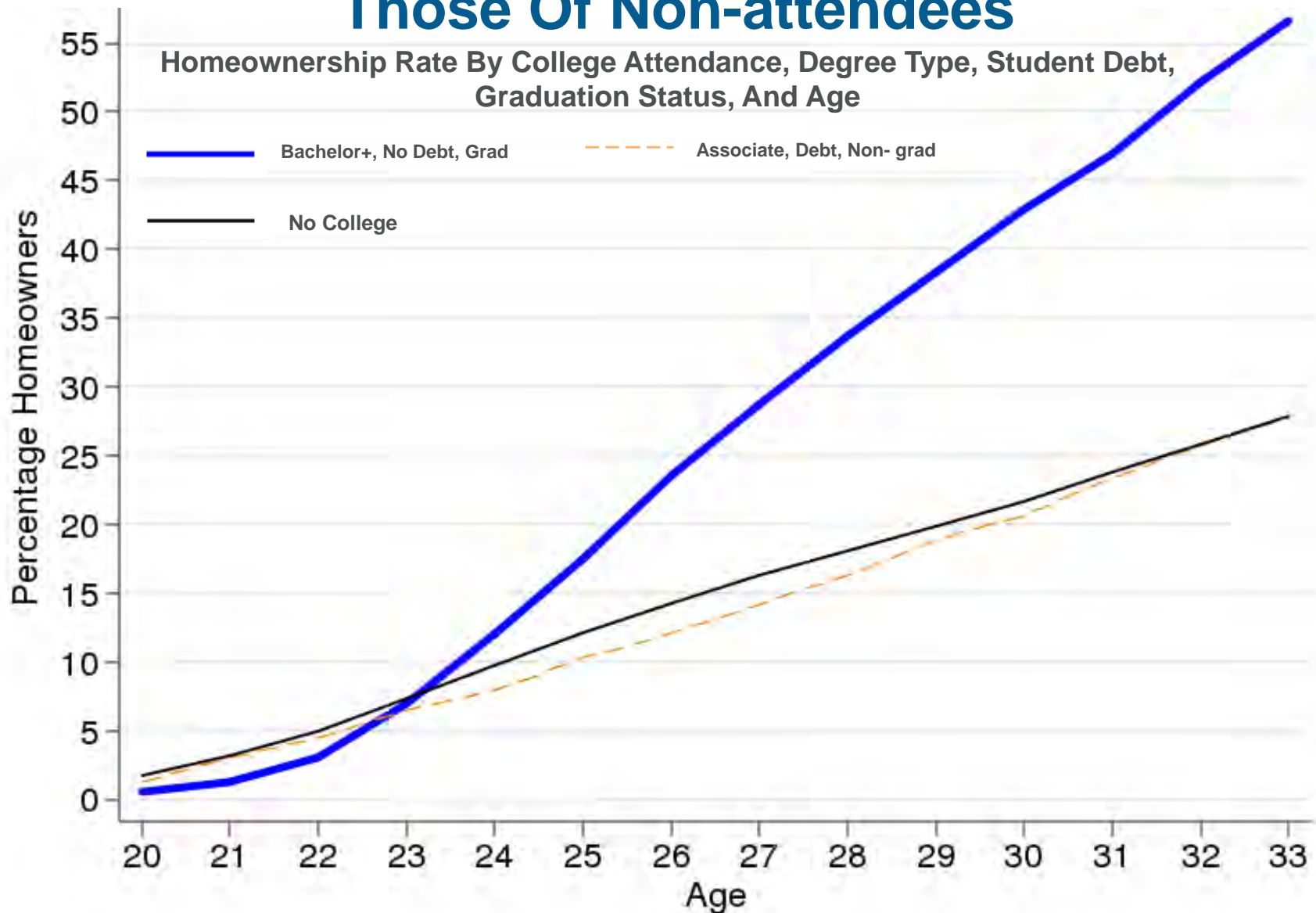
Homeownership Rate By College Attendance, Degree Type, Student Debt, Graduation Status, And Age

Legend:
- Bachelor+, No Debt, Grad
- Associate, Debt, Non- grad
- No College

Bachelor's+ includes bachelor's and higher-level degrees. *Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse*

Higher Student Debt Balance Associated With Lower Homeownership Rates

Homeownership Rate By College Attendance, Student Debt Balance, And Age

College Attendance Appears To Mitigate The Importance Of Family Background

Homeownership Rate By College Attendance, Family Income, And Age

Legend:
- College, Above Mean Income
- College, Below Mean Income
- No College, Above Mean Income
- No College, Below Mean Income

Y-axis: Percentage Homeowners

X-axis: Age

Homeownership Gap Between Students With And Without Student Debt Widens Slightly Over Time

Homeownership Rate By College Attendance, Student Debt Status, And Age/Year
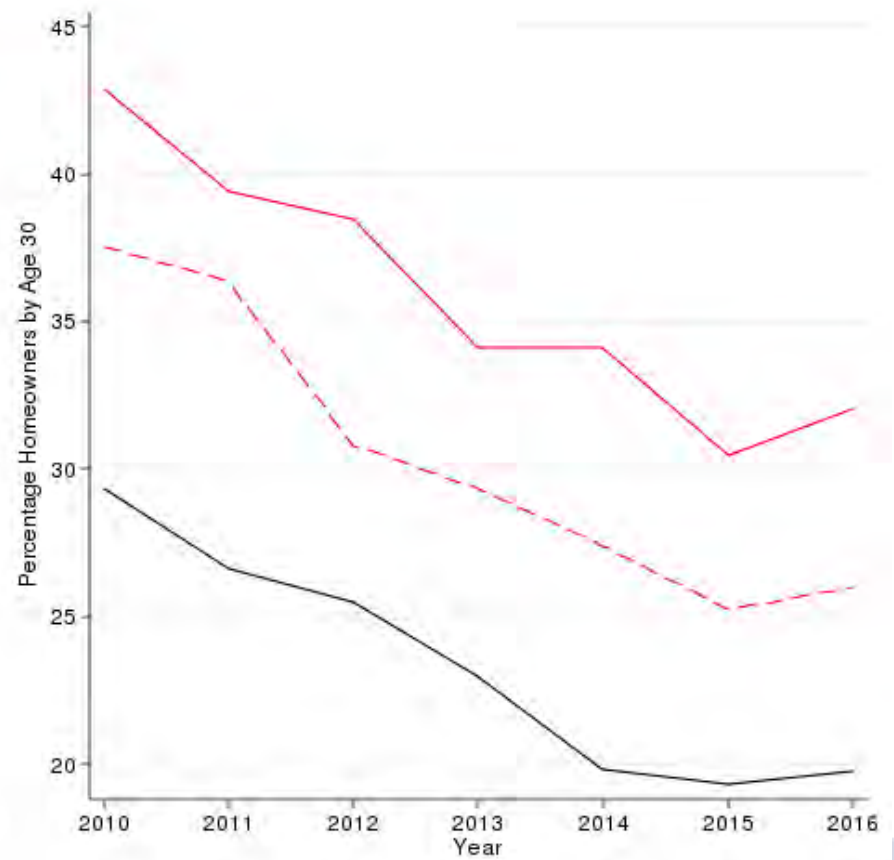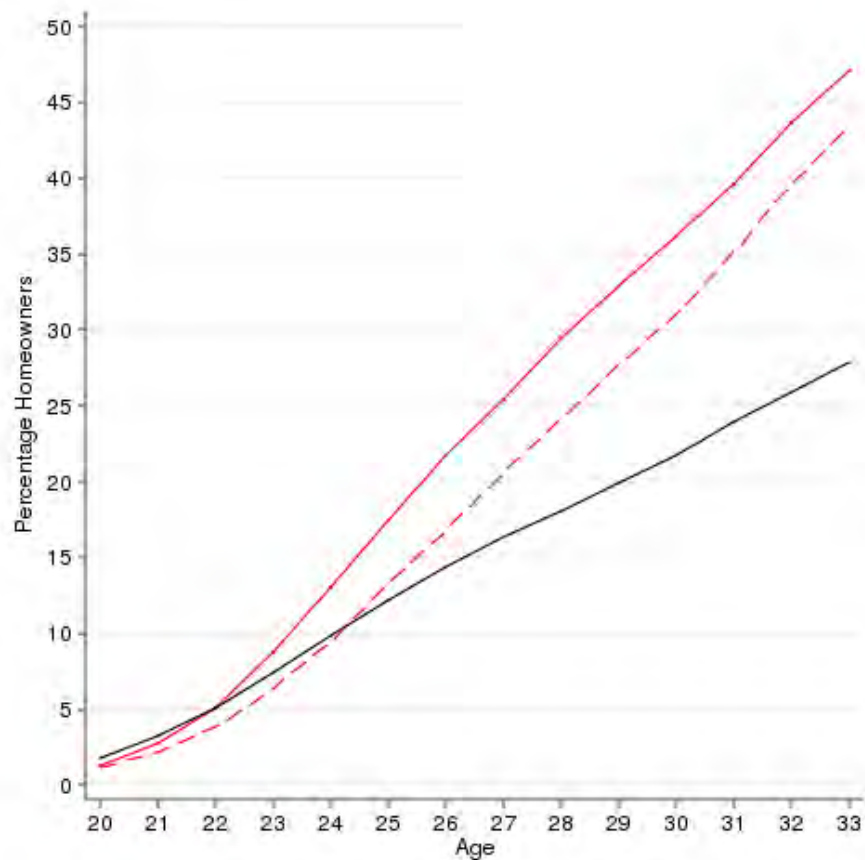
College, No Debt   — — — College, Debt   No College

Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse

Key Takeaways

- College education associated with markedly higher homeownership rate, regardless of debt status

  - Homeownership rates for Bachelors' higher than Associates' regardless of debt status
  - Lowest homeownership rates for those who do not go to college and gap widens over time
  - Graduates have significantly higher homeownership rates than non-graduates, regardless of debt status

- At each degree/completion level, students with debt have lower homeownership rates

- Higher debt balance associated with lower home ownership rates

- College education appears to mitigate importance of family background
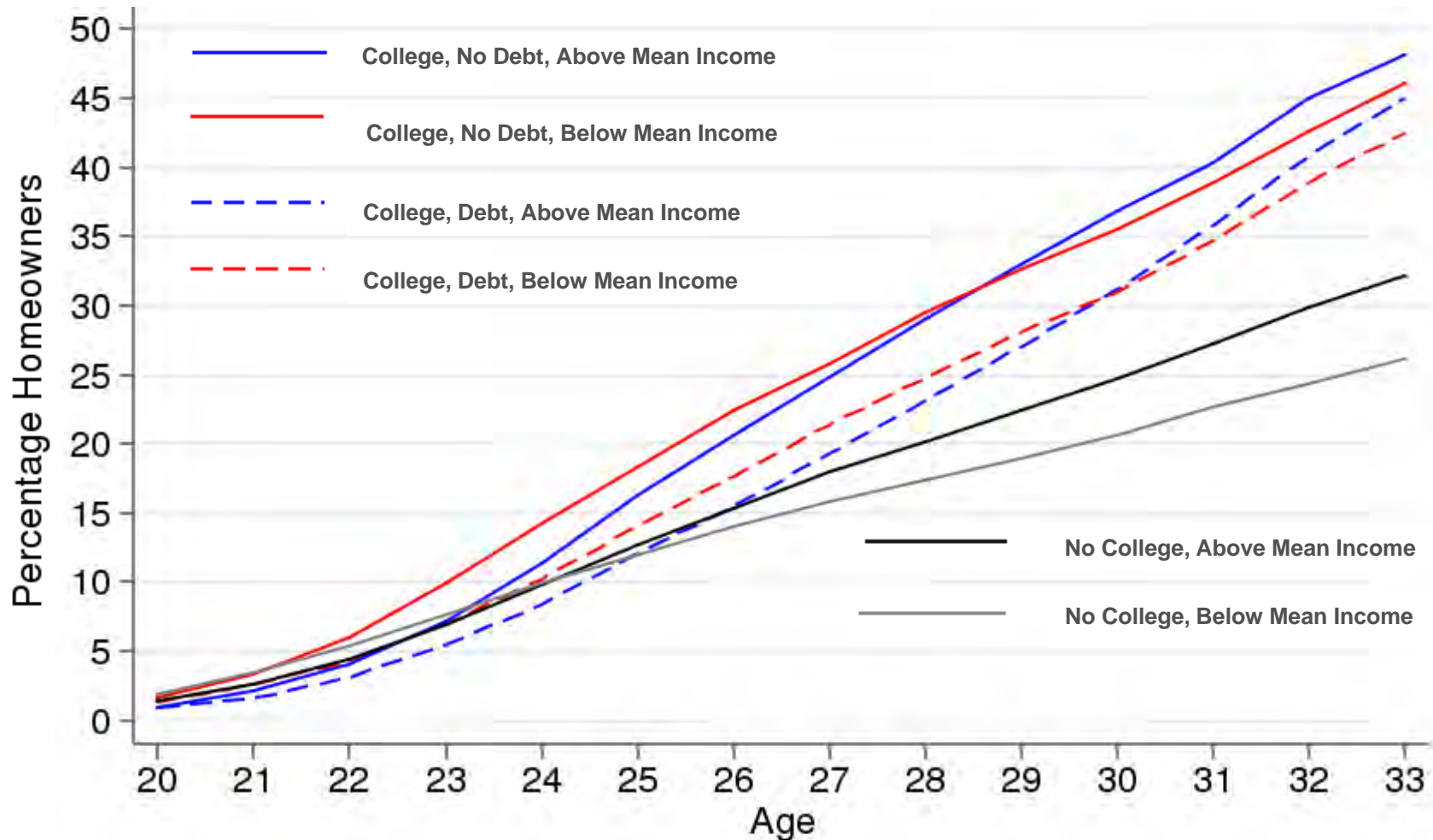
Summary

- While the total level of household debt has nearly returned to the 2008 peak, debt types and borrower profiles have changed.
  - Debt growth is now driven by non-housing sectors, and debt is held by older, more creditworthy borrowers.
- Student debt has expanded significantly because of higher levels of borrowing and slower rates of repayment.
- Student debt defaults peaked with the 2011 cohort and have improved somewhat since. However, payment progress has declined.
- College attendance is associated with significantly higher homeownership rates regardless of debt status. Yet, student debt appears to dampen homeownership rates among those with the same level of education.
- College attendance appears to mitigate the impact of economic background on homeownership rates.

Appendix

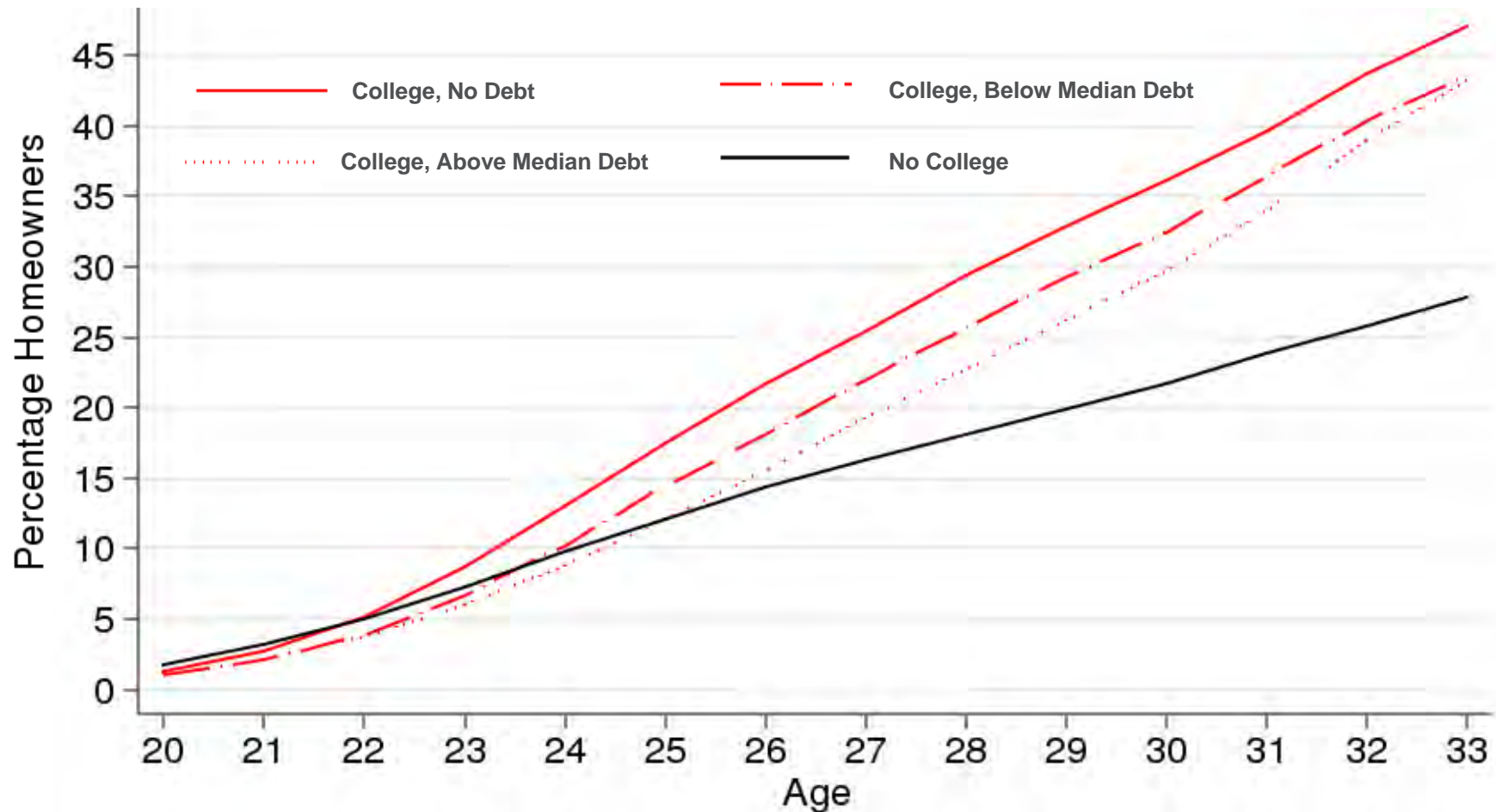# College Attendance Appears To Mitigate The Importance Of Family Background

Homeownership Rate By College Attendance, Student Debt Status, Family Income, And Age

Legend:
- College, No Debt, Above Mean Income
- College, No Debt, Below Mean Income
- College, Debt, Above Mean Income
- College, Debt, Below Mean Income
- No College, Above Mean Income
- No College, Below Mean Income

X-axis: Age (20 to 33)
Y-axis: Percentage Homeowners (0 to 50)

Family background proxied by 2010 zip code-level mean income where an individual resided at the youngest age we observe. Mean income is $55,000. **49**
Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse

# Higher Student Debt Balance Associated With Lower Homeownership

Homeownership Rate By College Attendance, Student Debt Balance, And Age

Median student debt balance for the student loan holding individuals in our sample is $20,400. *Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse*

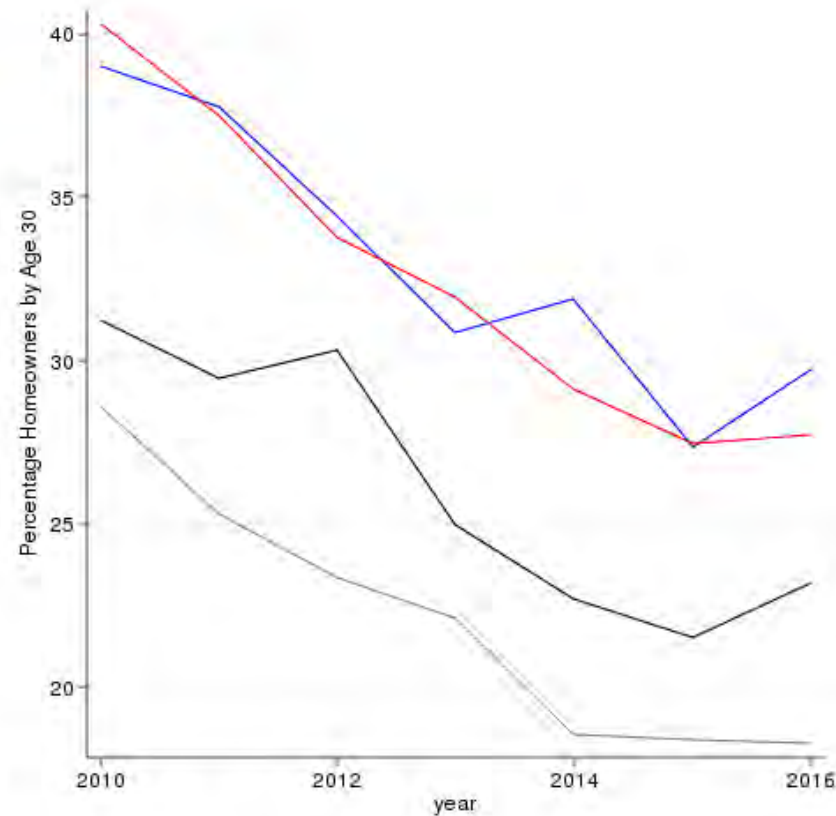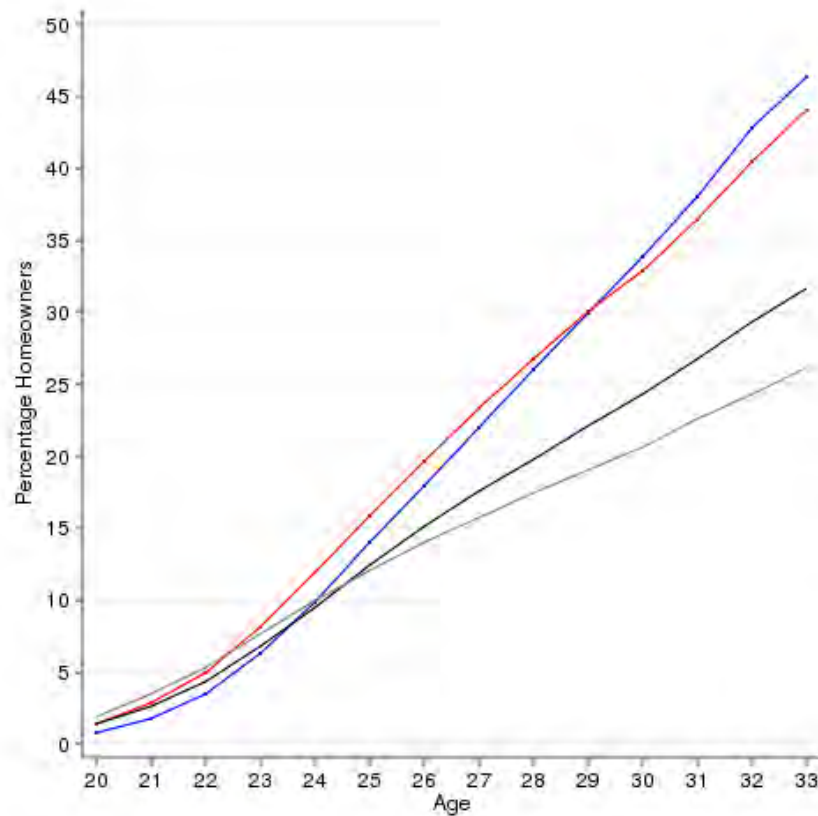# Graduates Have Highest Homeownership Over Time, Non-attendees The Lowest

Homeownership Rate By College Attendance, Graduation Status, And Age/Year
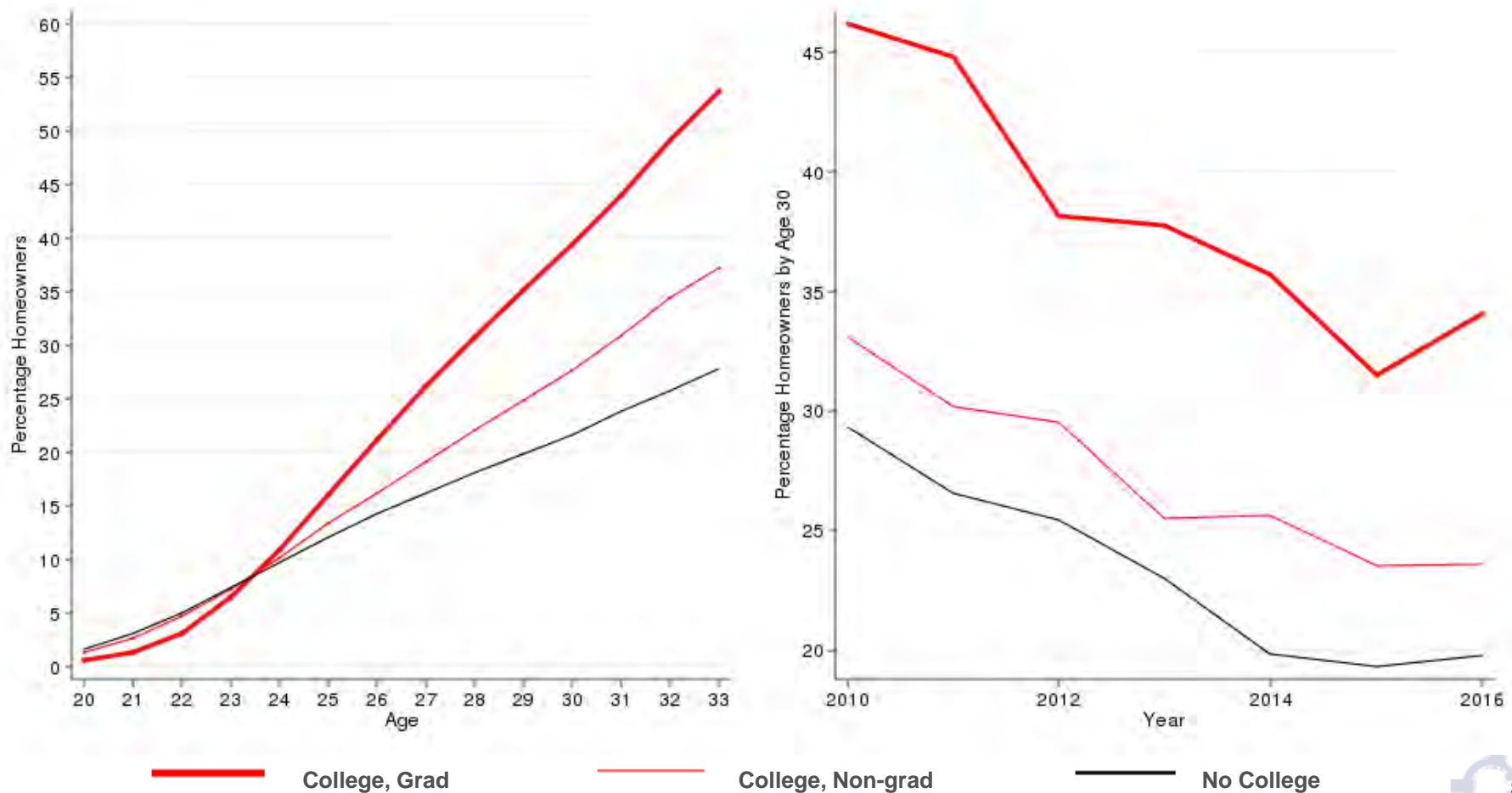
College, Grad — College, Non-grad — No College

# College Attendance Appears To Mitigate The Importance Of Family Background

Homeownership Rate By College Attendance, Family Income, And Year

College, Above Mean Income

College, Below Mean Income

No College, Above Mean Income

No College, Below Mean Income

Family background proxied by 2010 zip code-level mean income where an individual resided at the youngest age we observe.

Sources: FRBNY Consumer Credit Panel/Equifax and National Student Clearinghouse

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Share of College Attendees with Student Debt Remained Stable Over Time
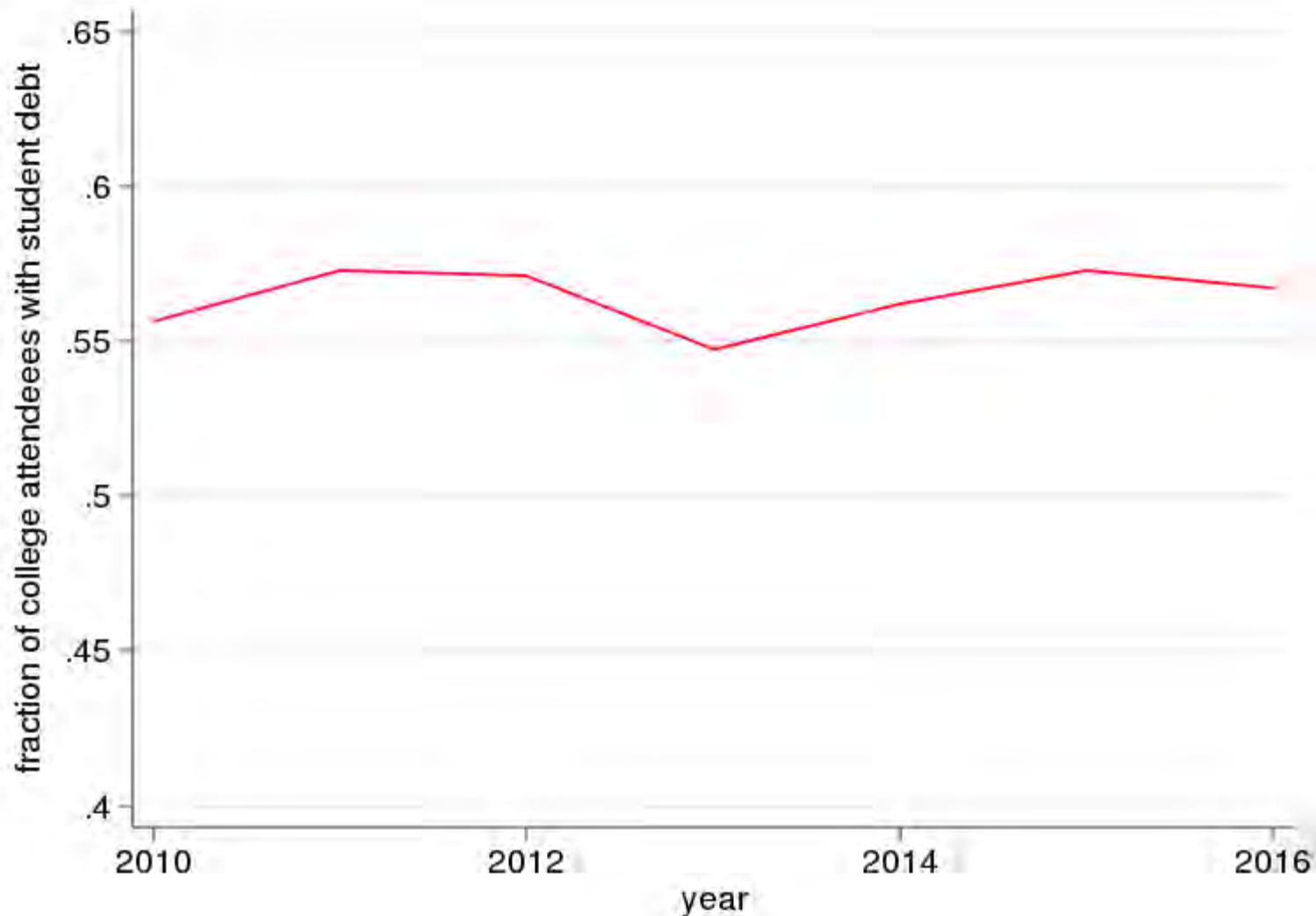
Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse

Homeownership Rate Has Declined Over Time

Homeownership Rate By Age 30 By Year
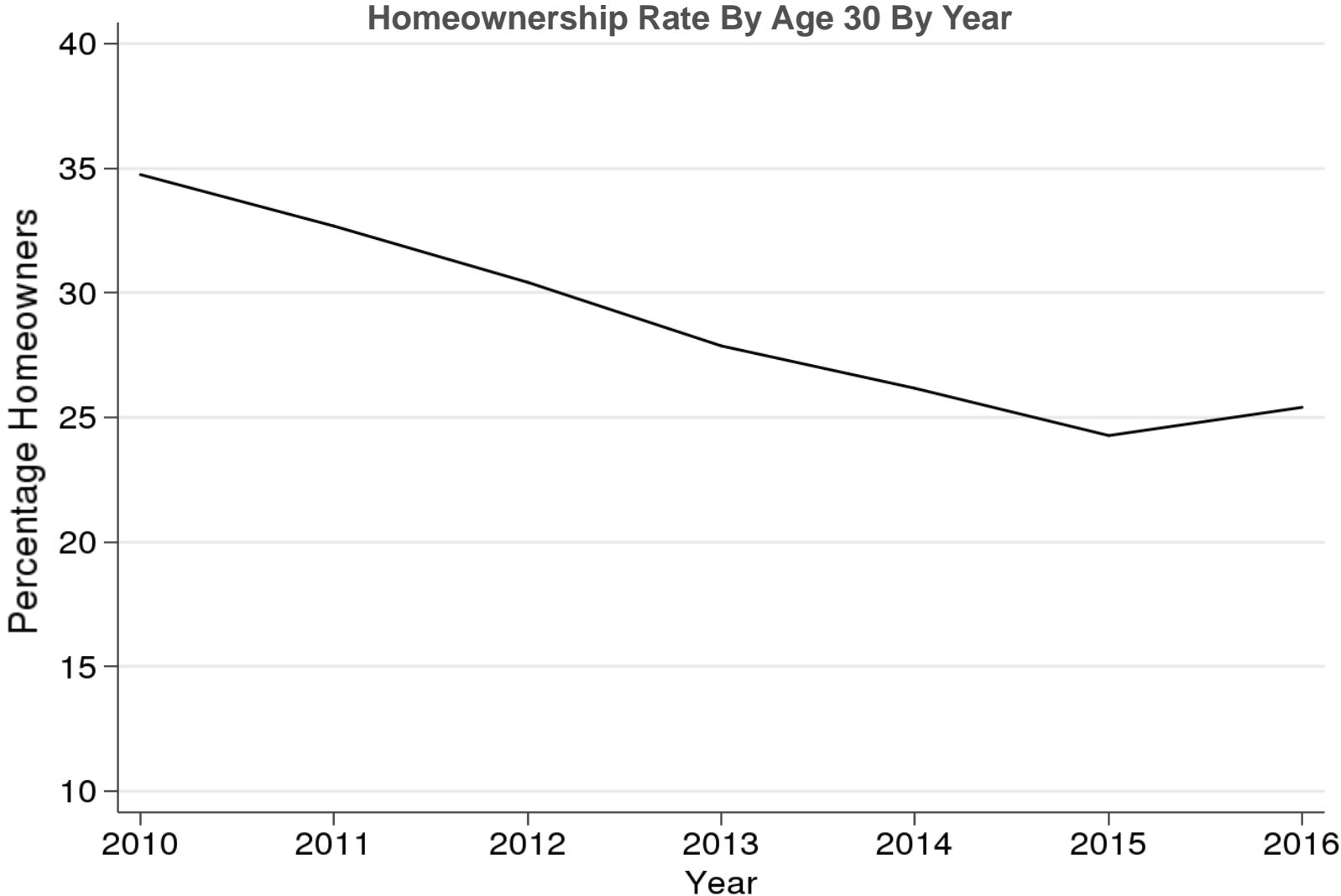
Source: New York Fed Consumer Credit Panel/Equifax

Variable Definitions

- Homeownership defined as ever having a mortgage by that age

- Student debt status based on whether an individual held student debt between ages 27 and 30 to capture recent exposure to debt

- We categorize as college attendees those who entered college by age 25.

- Degree program is based on the highest degree program entered by age 25

- College graduates are those who graduated at or before age 30