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# Does College Level the Playing Field? The Homeownership and Mortgage Experience

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*\*These are my own views, and not necessarily the views of the Federal Reserve Bank of St. Louis, Federal Reserve System, or the Board of Governors*



# Motivation

- Households headed by college-educated Black or Hispanic/Latino individuals fared worse in the 2007 – 2013 period than Whites and Asians, as well as their peers who didn't earn a degree.
- During this same period, the U.S. suffered the worst housing crisis in modern memory and the second worst recession.
- How much of the divergent wealth outcomes can be explained by different mortgage borrowing and homeownership experiences during this turbulent time?

# Takeaways

- Compared to whites, minority groups held a greater concentration of variable rate loans, including interest-only ARMs.
- These loans were associated with greater default rates.
- Minority groups had higher default rates across all products, including fixed rate loans.
- Individuals with higher incomes had higher ownership rates of riskier loans (ARMs, I.O. ARMs).
- Assuming college-educated individuals occupy higher income quartiles; defaults were concentrated among college-educated Hispanic/Latinos.

# Overview

- Introduction
- Data, Sample Choice, Summary Statistics
- Loan Products and Default Rates, By Race/Ethnicity
- Results by Income Distribution Within Racial/Ethnic Groups
- Conclusion

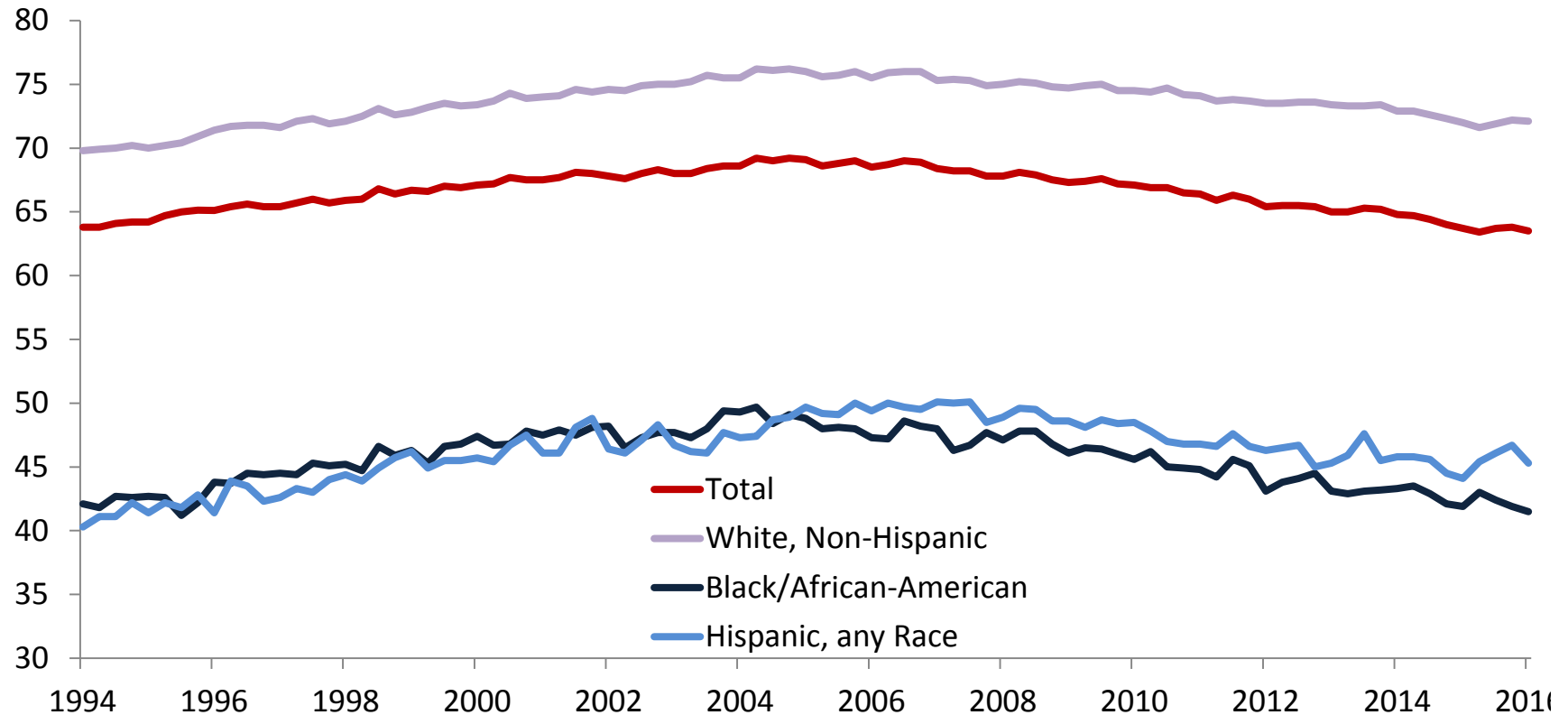
# Introduction

- All racial and ethnic groups embraced the dream of homeownership during the run-up to the housing crash.
- For many college graduates, purchasing a home of their own was the logical next step.
- With few accumulated assets, their financial stability and hopes of wealth accumulation were heavily reliant on this investment in housing.

# Homeownership Peaks Close to Our Sample Date

## Homeownership Rates by Race and Ethnicity of Householder, 1994 to Present

Percent



Source: Current Population Survey/Housing Vacancy Survey, Series H-111, U.S. Census Bureau.

# Data

- Merged Confidential Home Mortgage Disclosure Act (HMDA) with a match of loans in the McDash dataset.
- Time series data by individual loans with detailed borrower information best suited to assess mortgage experience.
- Total match includes over 89 million loans originated between 1992 and 2014.
- Random subsample of loans originating in June 2005 for white, non-Hispanic borrowers and larger sample for minority groups.

# Data

- Advantages:
  - Direct measurement of demographics (reported at loan application) avoids identification issues.
  - Monthly frequency gives dynamic look at loans at origination, termination, and everything in between.
  - Direct measurement of income at the time of origination.
- Disadvantages:
  - No direct measurement of educational attainment.
  - Income is static over time, doesn't capture job loss.



# Data

- Our analysis focuses on four groups: Black/African-Americans, Asians; Hispanic/Latino, any race; White, not Hispanic.
- We have unique loans distributed as follows:
  - Asian: 4,680
  - Black/African-American: 7,970
  - Hispanic/Latino, any Race: 11,865
  - White, Non-Hispanic: 9,024

# Lower FICO Scores, Higher Rates, Lower Appraisal

## Summary Statistics by Race/Ethnicity, March 2006

<i>Variable</i>	<i>Asian</i>	<i>Black</i>	<i>Hispanic/Latino</i>	<i>White</i>
Median Applicant Income	97	62	68	76
Median FICO Score	729	656	685	719
Median Appraisal Amount	385	189	262	233
Median Interest Rate	5.875	6.375	6.25	5.875
Share Fixed	46.9	55.7	51.2	64.1
Share Variable	52.3	43.5	48	34.6

NOTE: All dollar amounts are in thousands.



# LOAN PRODUCTS AND DEFAULT RATES

# Loan Product Definitions

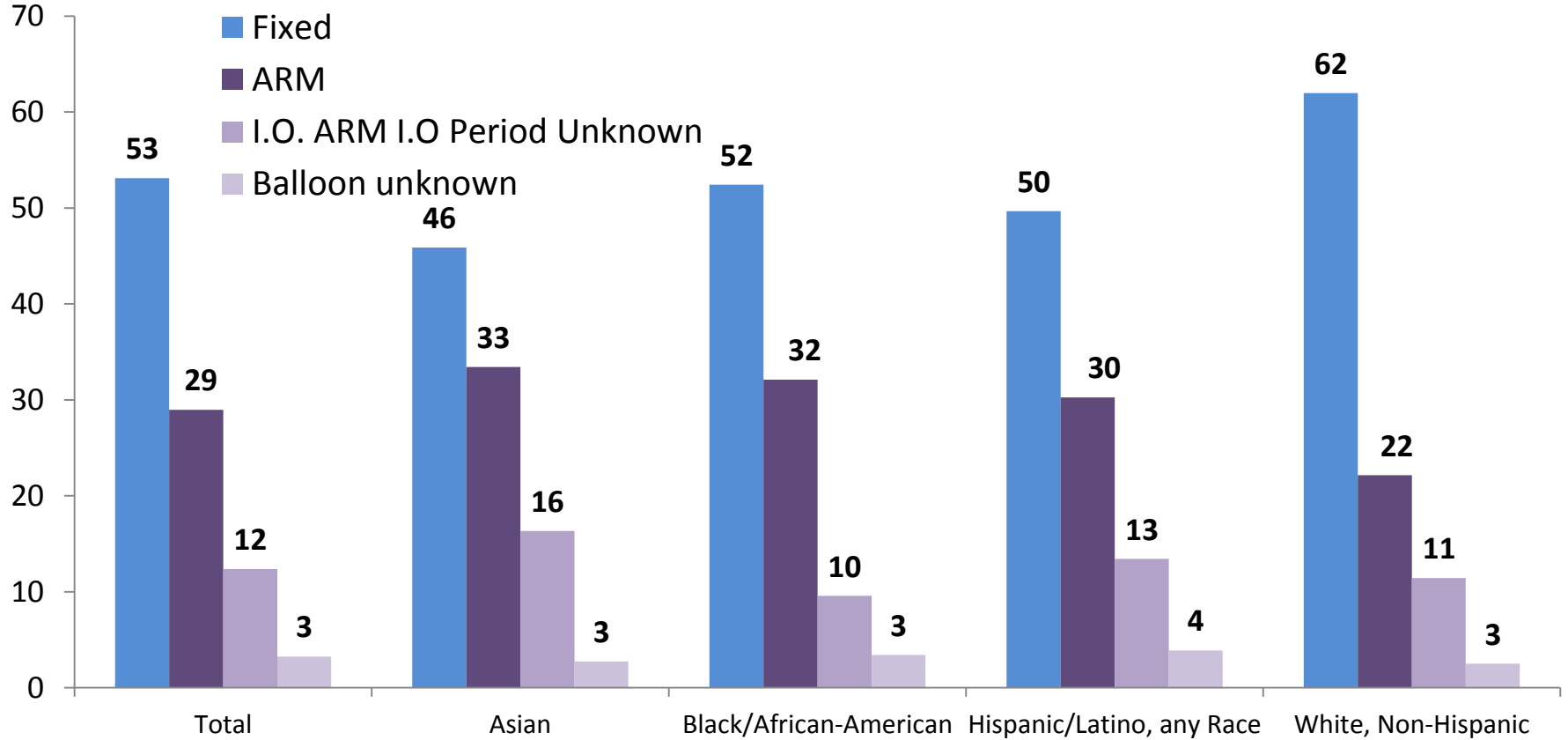
- **Fixed-Rate Mortgage:** Mortgage loan where the interest rate stays the same over the life of the loan.
- **Adjustable Rate Mortgage (ARM):** Mortgage loan where the interest rate periodically adjusts based on an index.
- **Interest-Only ARM:** An adjustable-rate loan with an initial interest-only payment period. No principal is paid during this time. Monthly payments increase substantially after the period.
- **Balloon Mortgage:** A mortgage which has a balance due at the end of its life. This “balloon” payment is usually large.



# Minority Groups had More ARMs, Specialty Loans

## Distribution of Loan Products

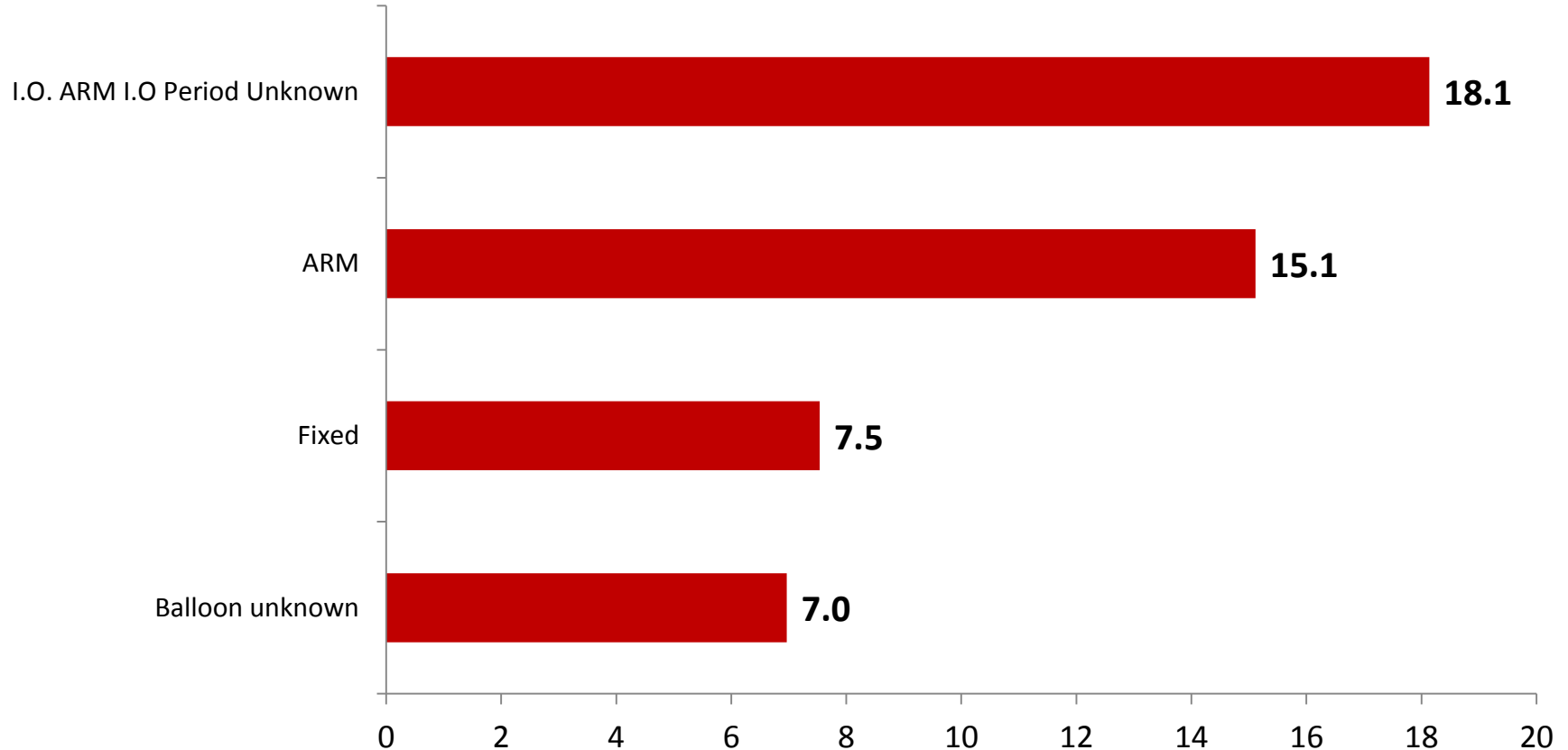
Percentage Share of Loans Originating in June 2005



# Highest Default Rate for Interest-Only ARMs

## Default Rates, By Product Type

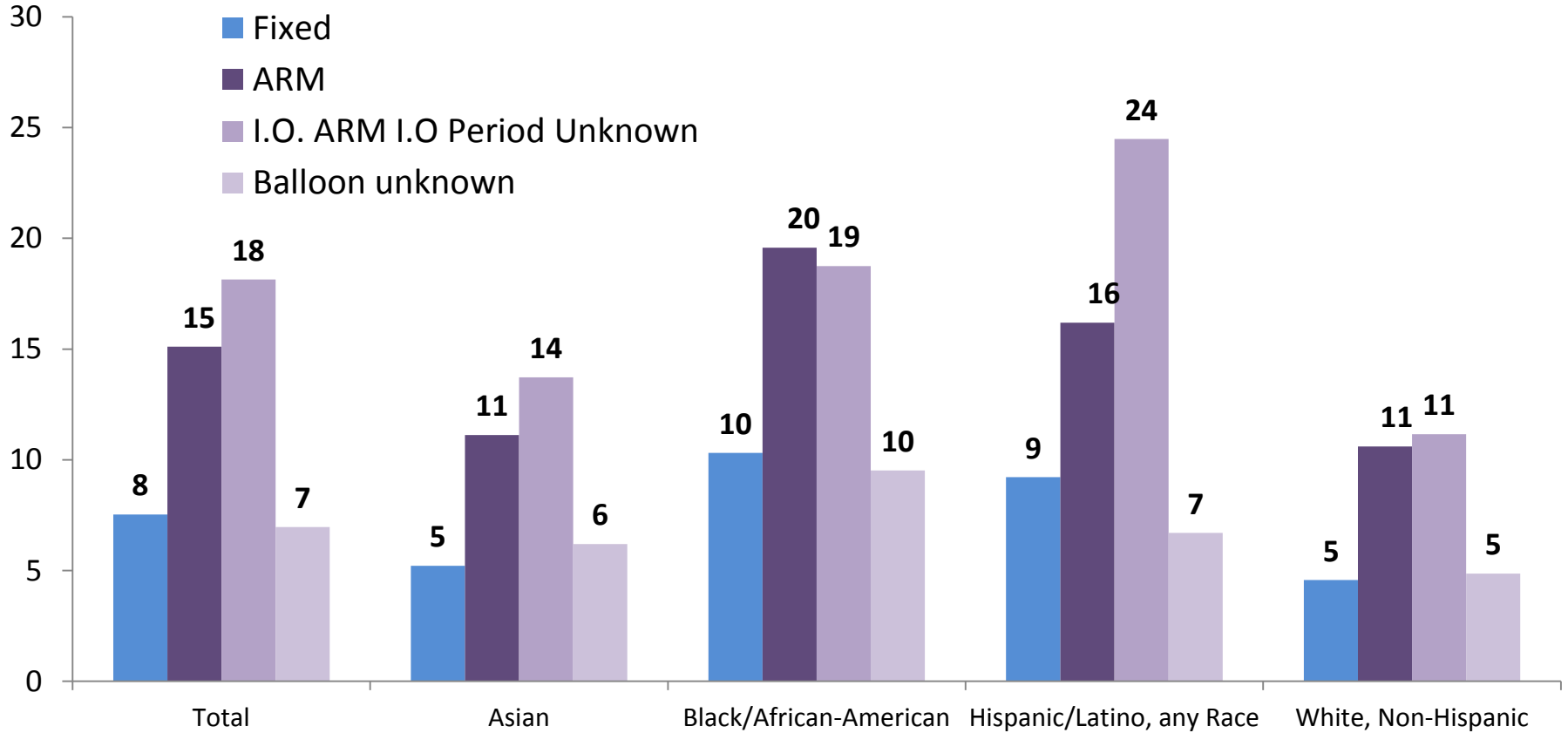
Percentage Share of Loans Originating in June 2005



# Default Rates Higher Across All Products

## Default Rate, by Loan Product and Racial/Ethnic Group

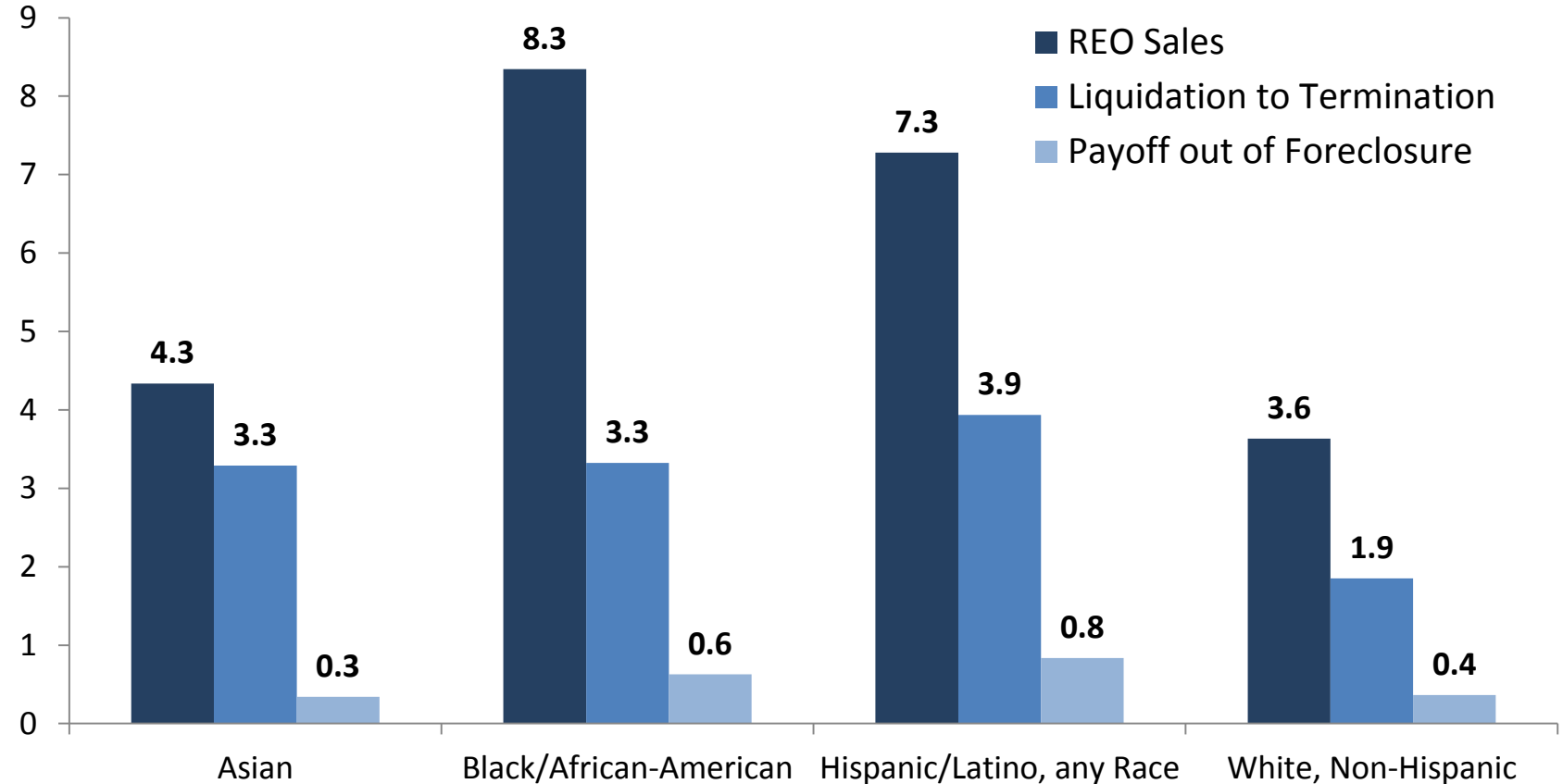
Percentage Share of Loans by Type Originating in June 2005



# Real Estate Owned Sales are Majority of Defaults

## Loan Defaults, by Type Termination and Race

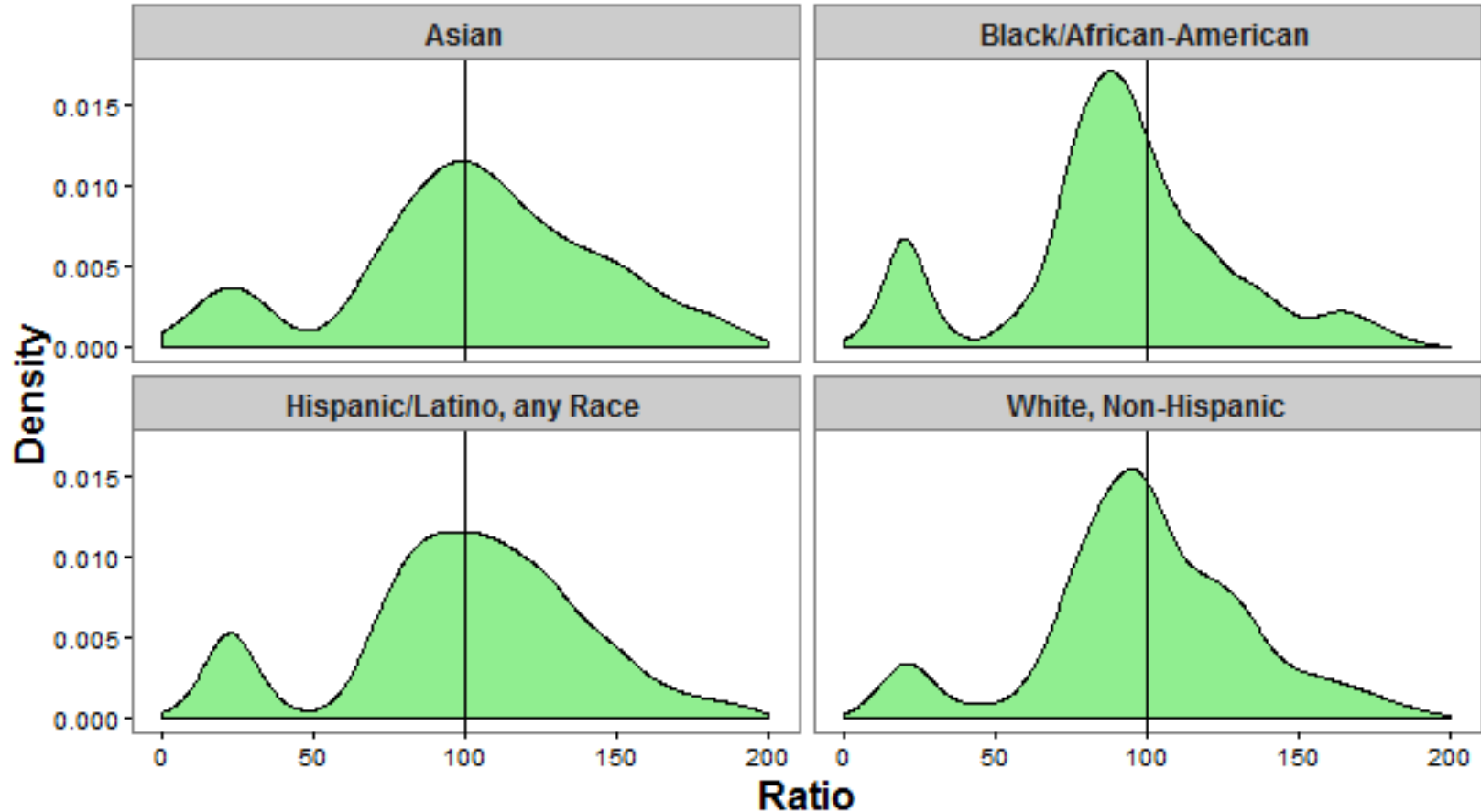
Percentage Share of Loans Originating in June 2005, Sample Ends in June 2013





# Underwater Loans Were Motivating Factor

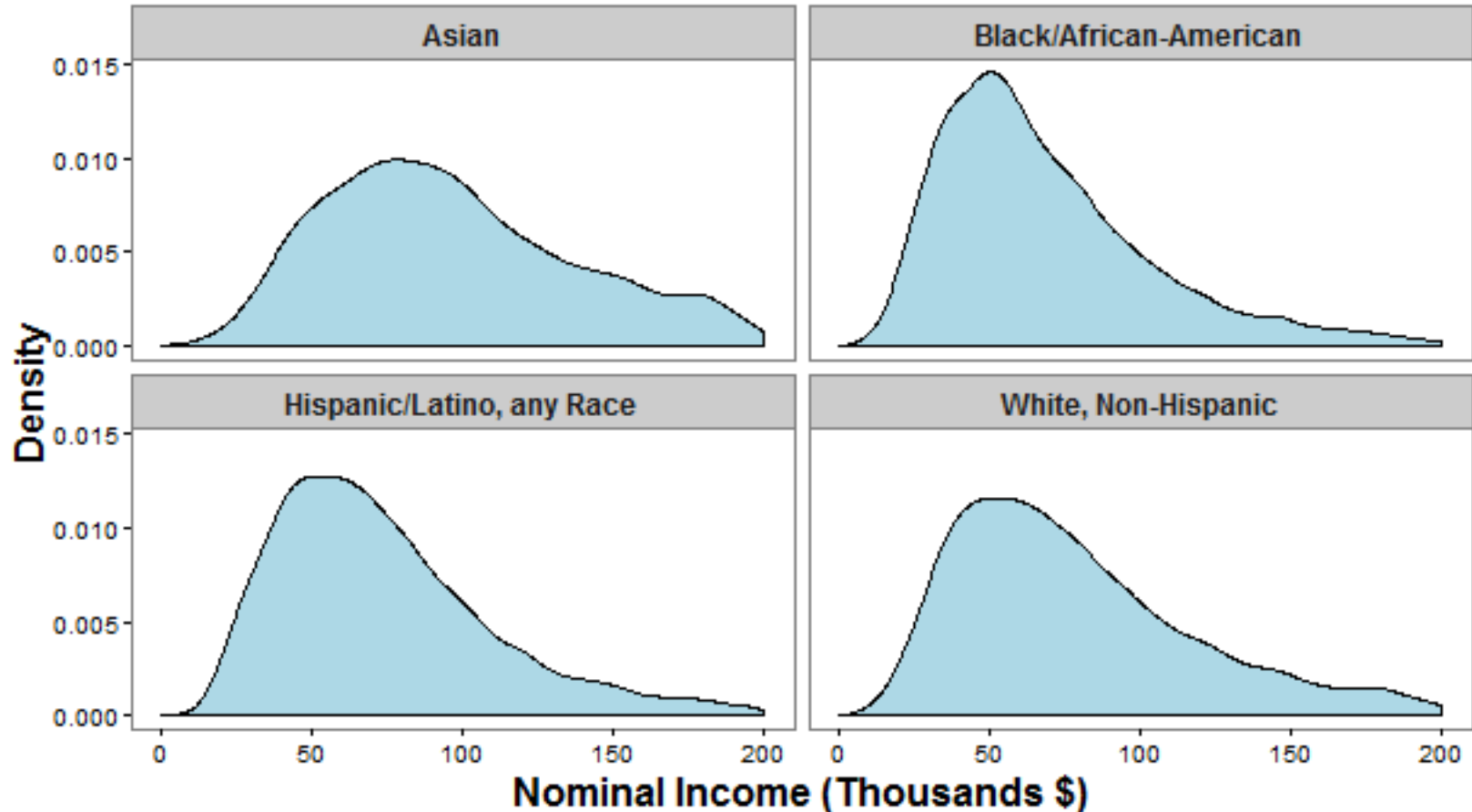
## Loan-to-Value Ratio at Date of Termination, by Race/Ethnicity



# RESULTS BY INCOME DISTRIBUTION

# Income Distribution, Rough Proxy for Education

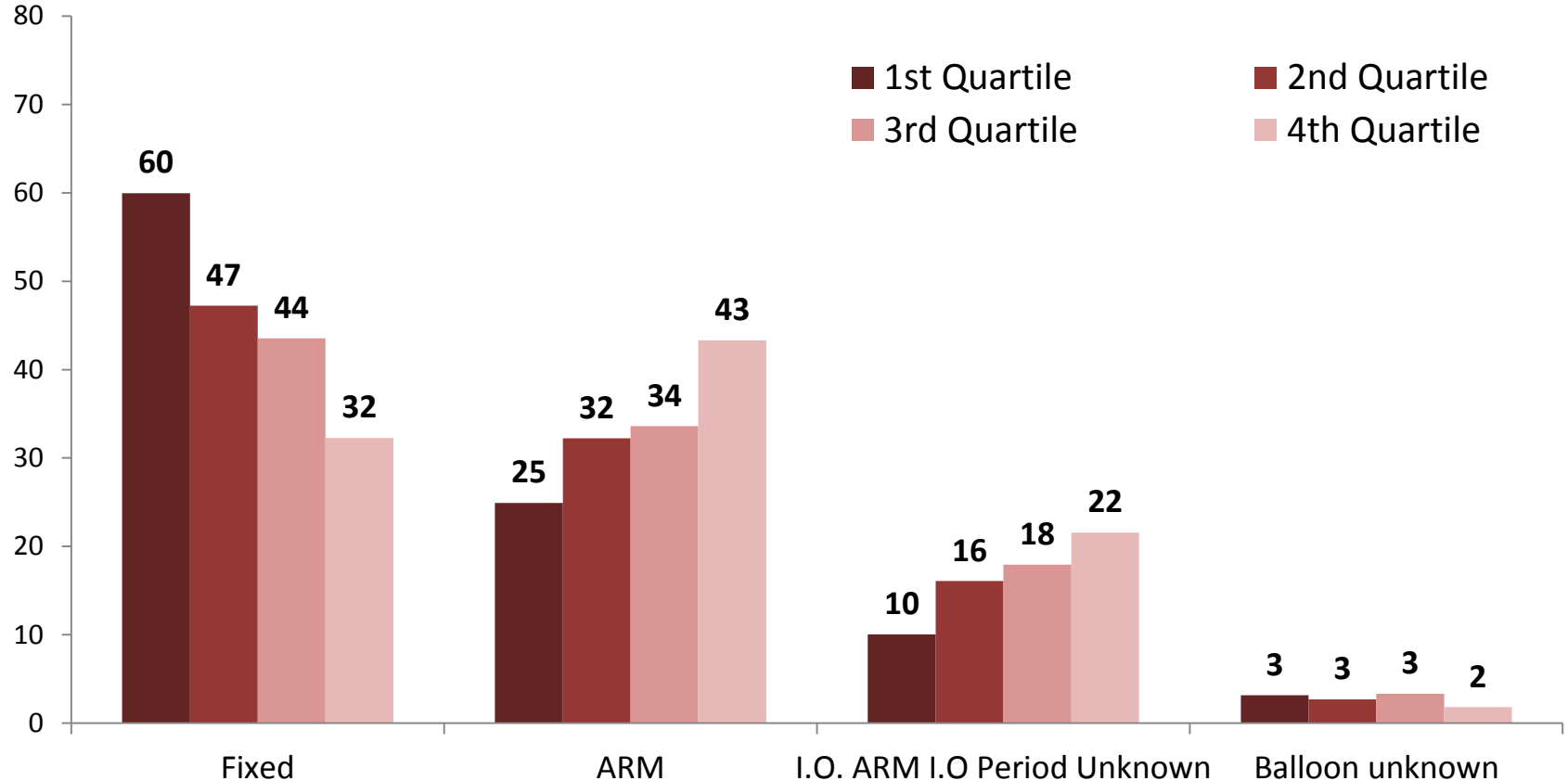
## Applicant Income on HMDA Application, by Race/Ethnicity



# Asian's had Greatest Holdings of ARMs

## Product Type, By Income Quartiles, Asian Group

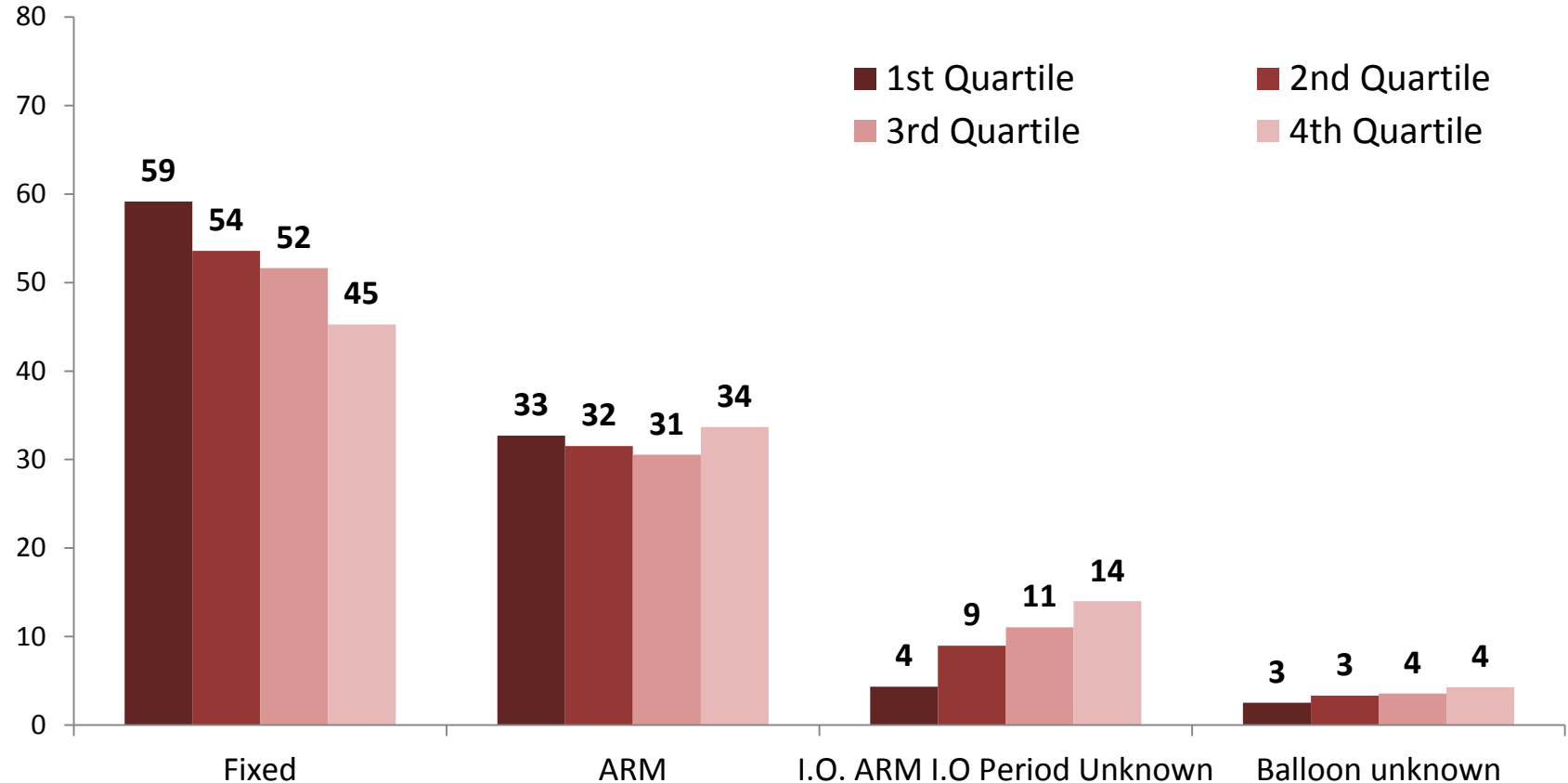
Percentage Share of Loans Originating in June 2005



# ARM Ownership Rate Similar Across All Quartiles

## Product Type, By Income Quartiles, Black/African-American Group

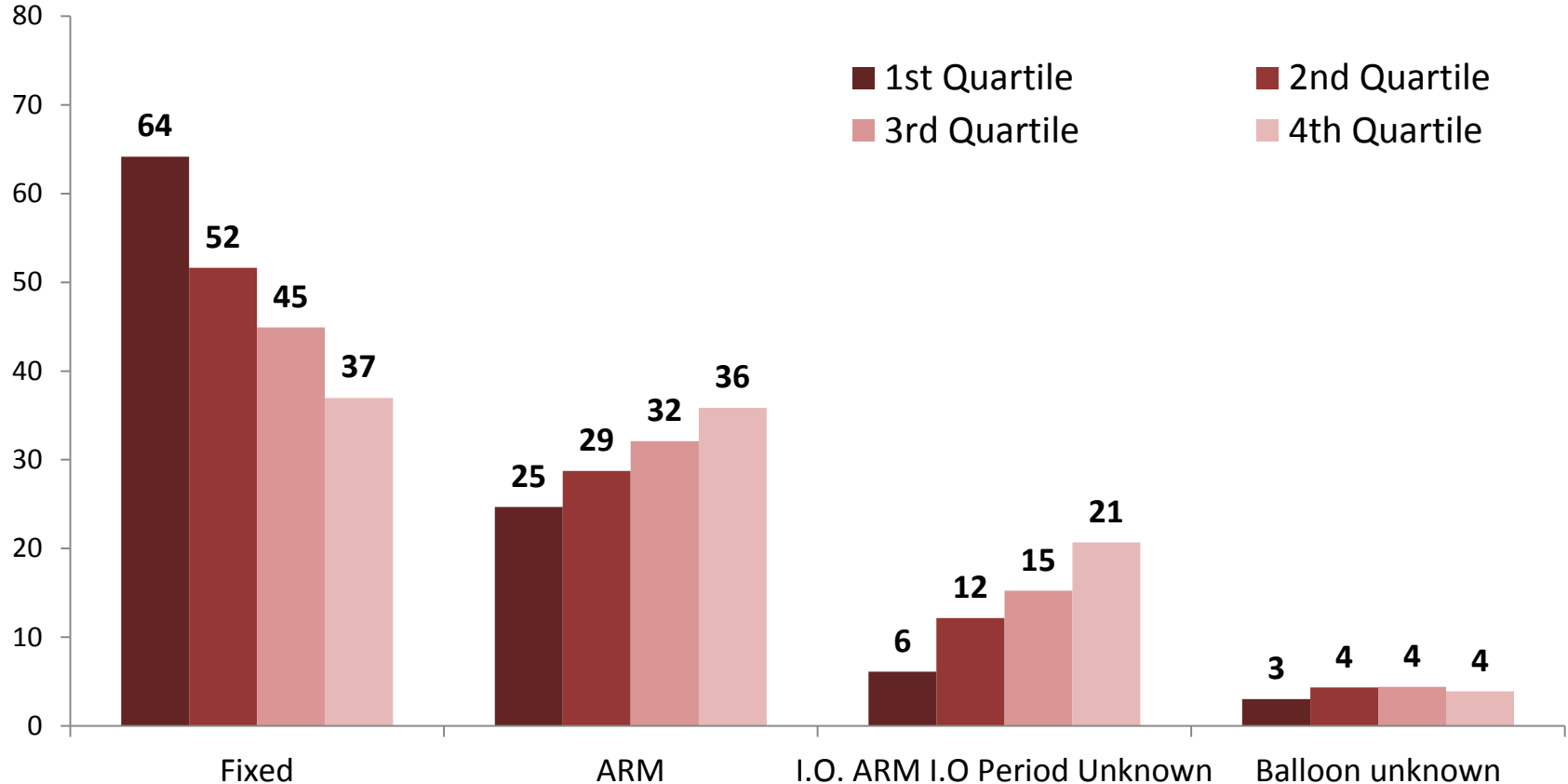
Percentage Share of Loans Originating in June 2005



# Pronounced Positive Relationship, Income w/ ARMs

## Product Type, By Income Quartiles, Hispanic/Latino Group

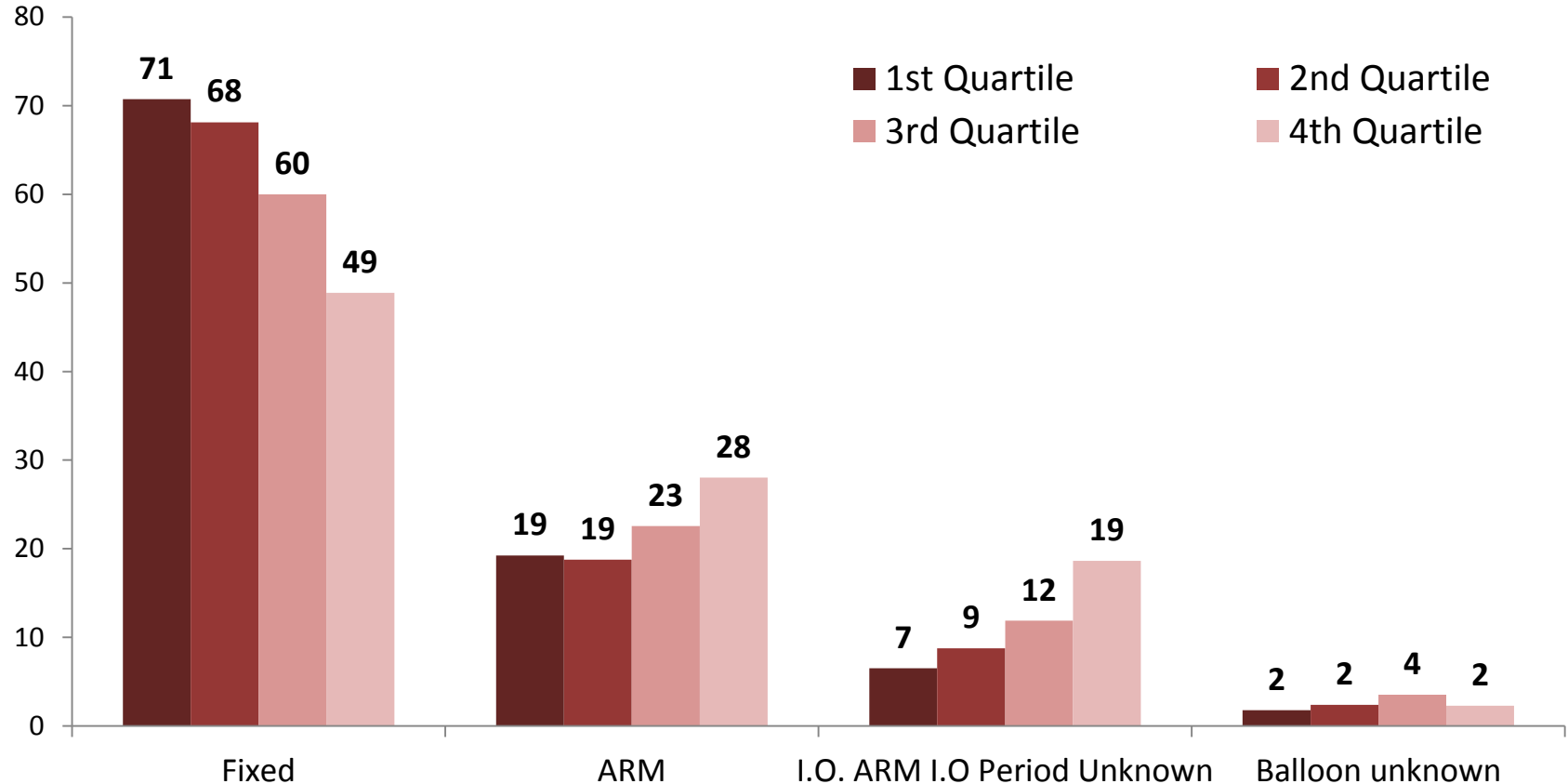
Percentage Share of Loans Originating in June 2005



# Positive Relationship Holds for Whites as Well

## Product Type, By Income Quartiles, White, non-Hispanic Group

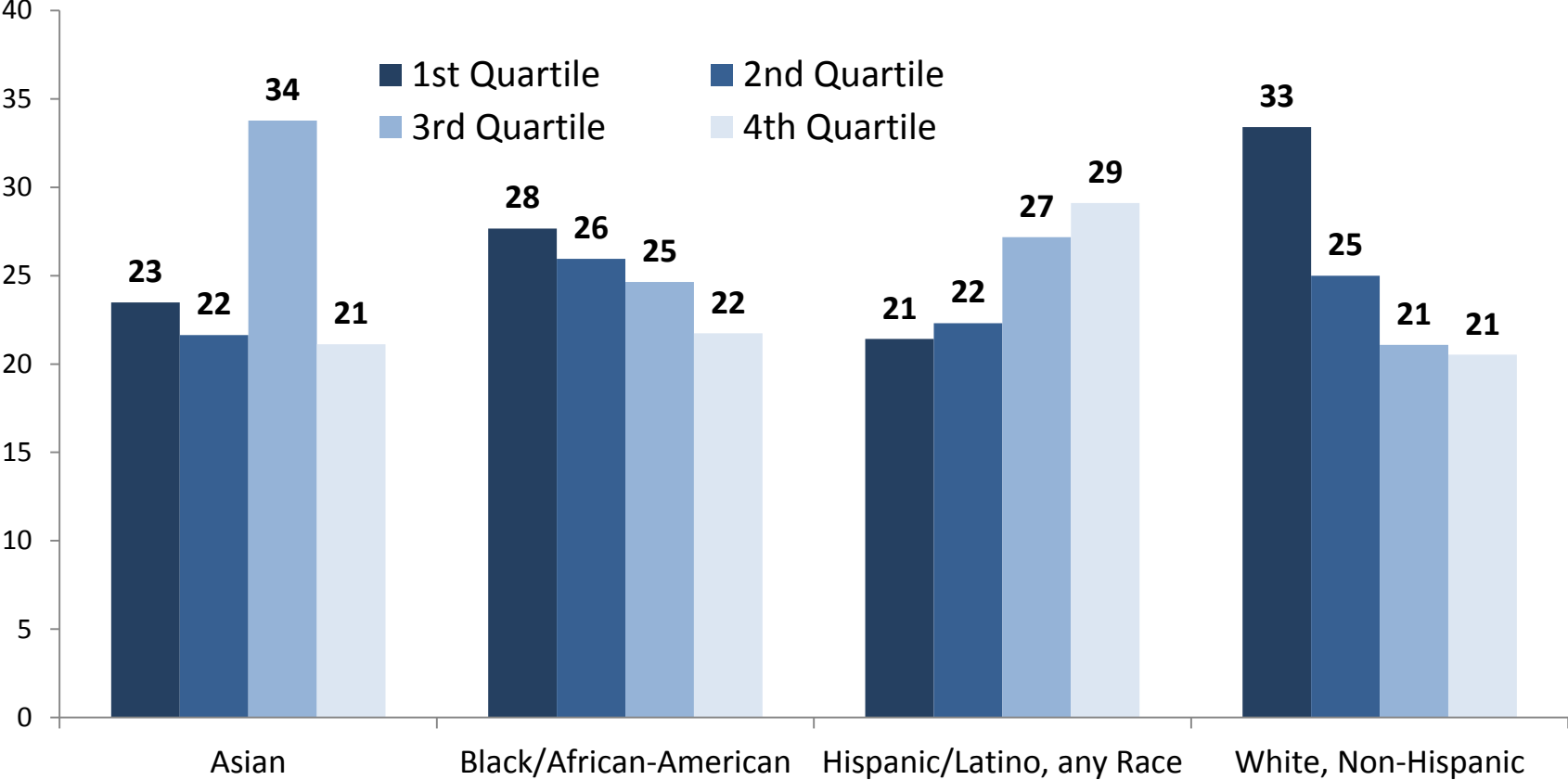
Percentage Share of Loans Originating in June 2005



# Defaults for Hispanic/Latinos Among Highest Earners

## Distribution of Loan Defaults, by Income Quartiles within Racial Groups

Percentage Share of Loans Ending in Default, Sample Ends in June 2013





# Conclusion

- Risky loan products were concentrated in the upper income quartiles, which we assume encompass the college-educated.
- During the crash those products had more severe default rates.
- In general, default rates were higher for minority groups.
- Looking at defaults by income shows a concentration of defaults among Hispanics/Latinos who earn the most.



# Conclusion

- Given that our sample only includes individuals who have applied and been approved for a loan we likely don't have the true bottom of the income distribution.
- This suggests that the default rates within the lower income quartiles also capture the experience of some college educated individuals.

# Further Research

- Benchmark our income distribution with that of Survey of Consumer Finances and Census, who is missing and what can we say about educational coverage?
- Within the Interest Only ARMs and ARMs in general, what idiosyncratic characteristics are predictors of default?
- What if we look at geographic flashpoints of the housing crisis (NV, CA, FL) and the minority communities there. Are there different trends within these local markets?



For More Information...

**Center for Household Financial Stability**

*stlouisfed.org/hfs*

***In the Balance* Research Essays**

*stlouisfed.org/publications/in-the-balance*

**FRED Economic Data**

*research.stlouisfed.org/fred2*

