



Conference on Housing Affordability

Thursday and Friday, April 6–7, 2017 | American Enterprise Institute | Washington, DC



Conference on Housing Affordability

Welcoming Remarks

Thursday and Friday, April 6–7, 2017 | American Enterprise Institute | Washington, DC



Conference on Housing Affordability

Housing Affordability: Why Does It Matter, How Should It Be Measured, and Why Is There an Affordability Problem?

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CONFERENCE ON HOUSING AFFORDABILITY
AMERICAN ENTERPRISE INSTITUTE, WASHINGTON DC
APRIL 6, 2017

WHY AFFORDABILITY MATTERS

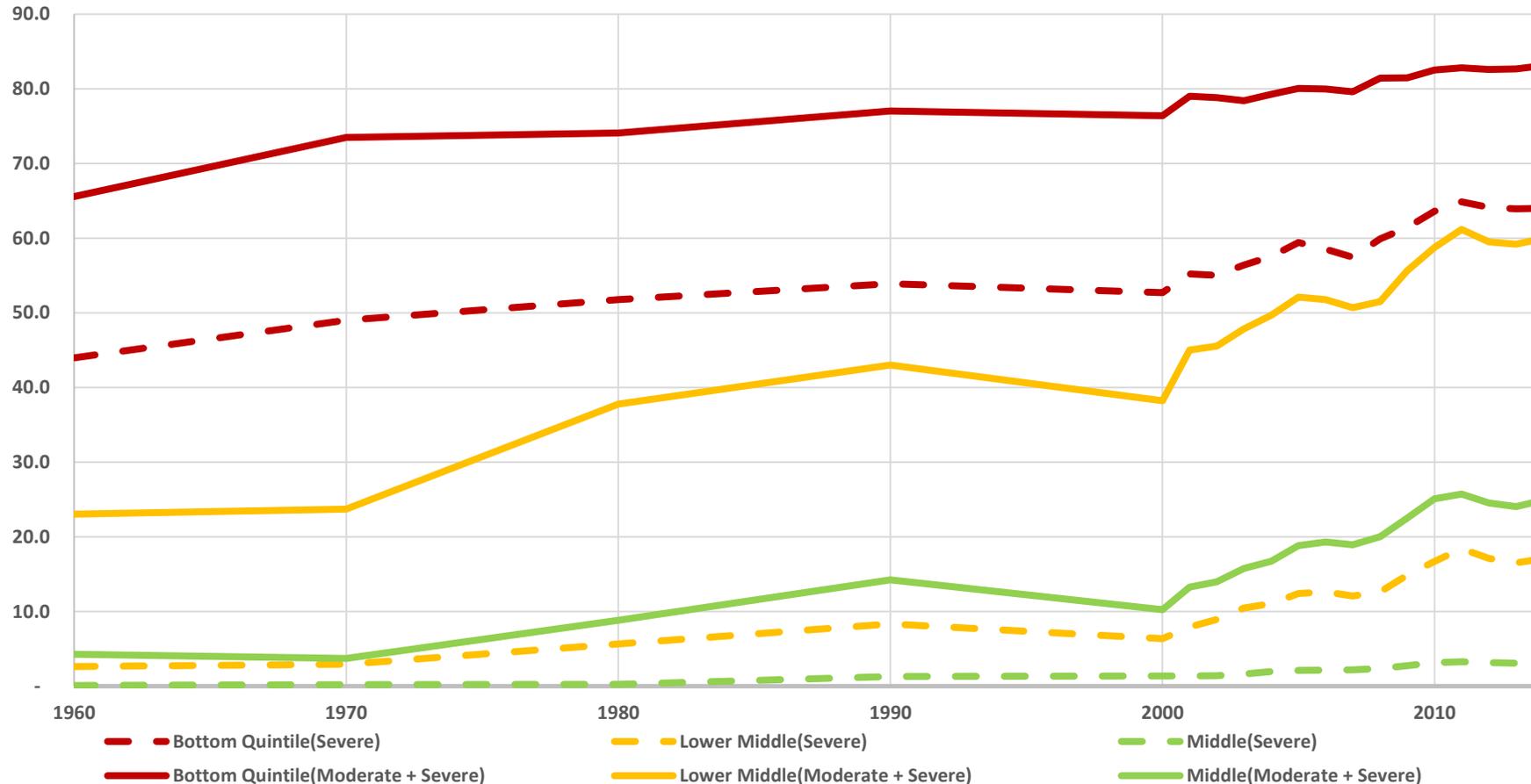
STUART GABRIEL* AND GARY PAINTER**

*UNIVERSITY OF CALIFORNIA AT LOS ANGELES

** UNIVERSITY OF SOUTHERN CALIFORNIA

Rental Housing Cost Burdens have Increased among Middle and Lower-Middle Income Quintile Households

Renter Housing Cost Burdens by Household Income Quintiles: 1960-2014

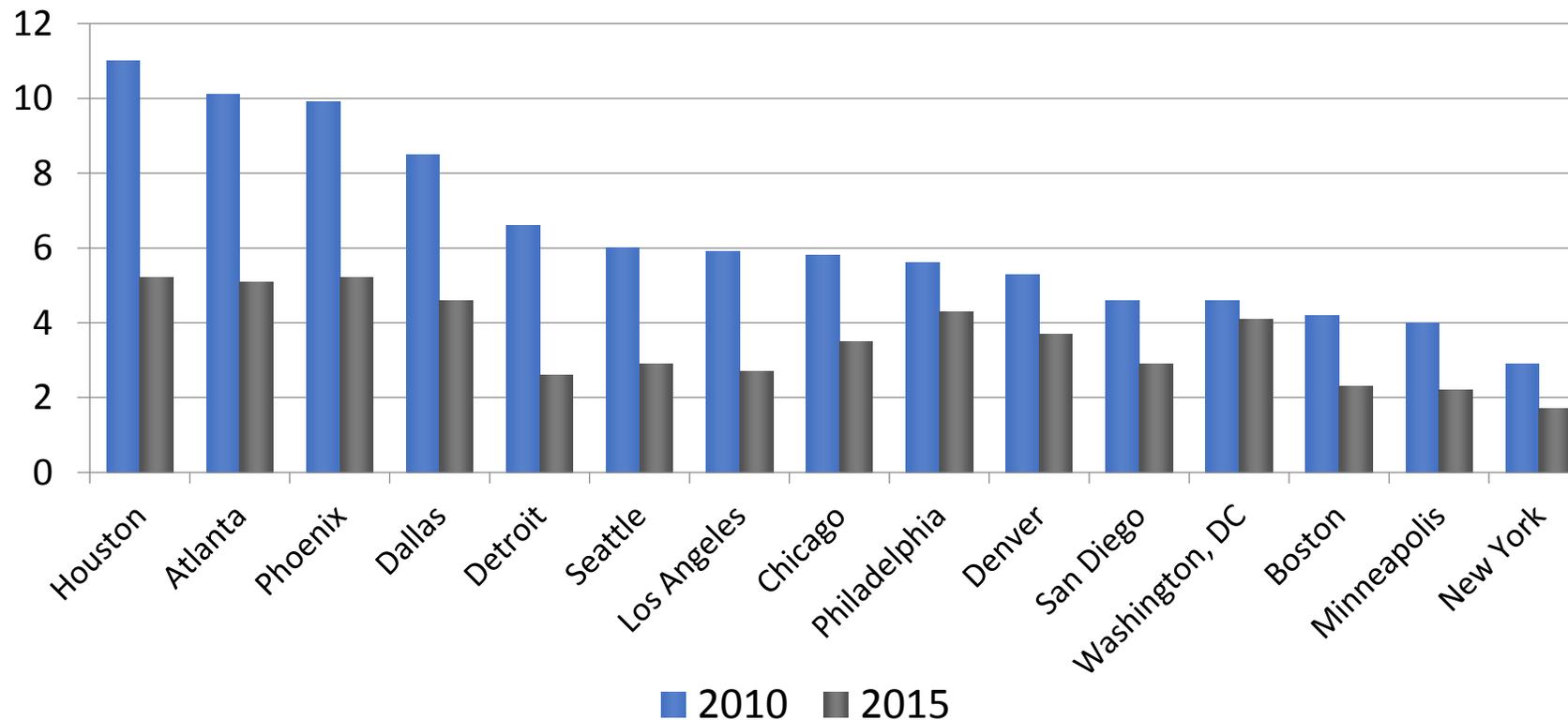


Notes: Moderately (severely) cost-burdened households pay more than 30% and up to 50% (more than 50%) of income for housing. Households with zero or negative income are assumed to be severely burdened, while households paying no cash rent are assumed to be without burdens. Household income quintiles are equal fifths of all households (both owners and renters) sorted by pre-tax household income.

Sources: JCHS tabulations 1960-2000 Decennial Censuses and 2001-4 American Community Surveys via Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010; US Census Bureau 2005-14 American Community Surveys.

Rental Housing Vacancy Rates Have Fallen Sharply in Many Metropolitan Areas

Rental Vacancy Rate (Percent)

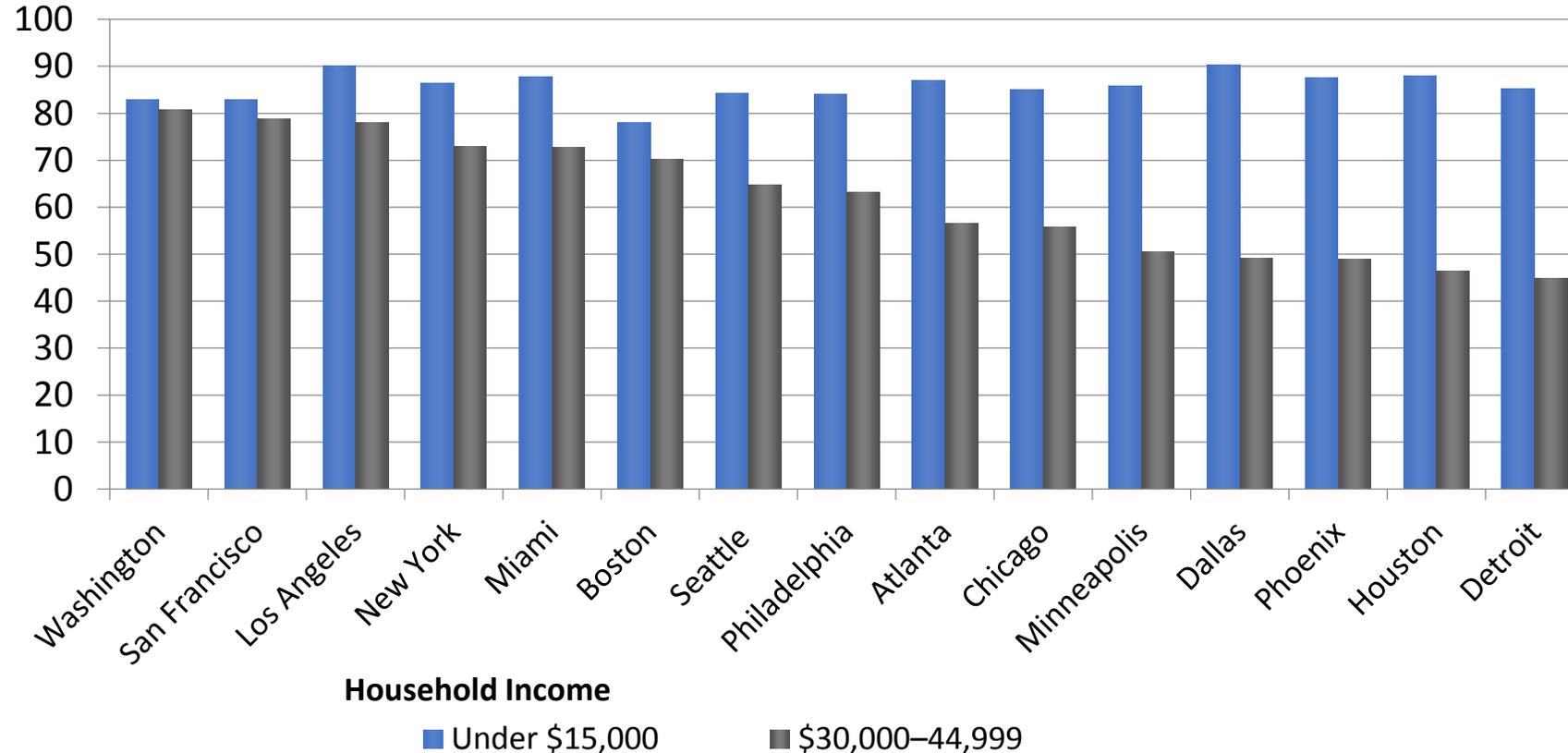


Notes: Estimates are based on a sample of apartments in investment-grade properties. Data for 2010 are from the fourth quarter. Data from 2015 are as of the third quarter.

Source: JCHS tabulations of MPF Research data.

Substantial Numbers of Moderate-Income Renters are Cost-Burdened

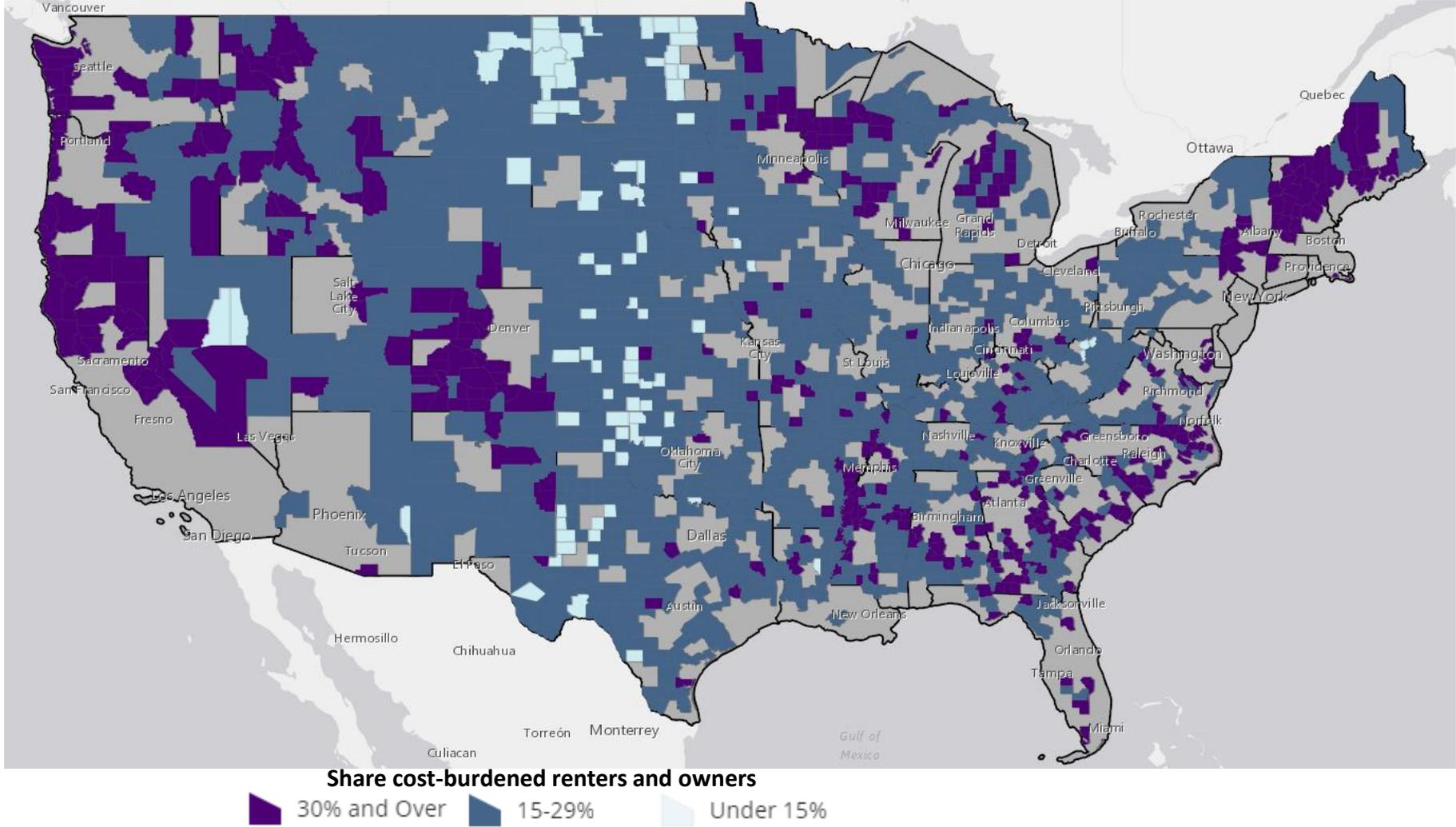
Share of Renters with Cost Burdens (Percent)



Notes: Cost-burdened households pay more than 30% of income for housing. Households with zero or negative income are assumed to have cost burdens, while households paying no cash rent are assumed to be without burdens.

Source: JCHS tabulations of US Census Bureau, 2014 American Community Survey.

Substantial Numbers of Households in Non-metro Areas are Cost-Burdened



Notes: The map shows the share of households in non-metropolitan cities that are housing cost burdened in 2014. Households spending 30% or more of their income on housing are considered cost-burdened.

Source: Sonali Mathur, JCHS tabulations of Decennial Census and American Community Survey

What do Rents Reflect?

- Housing services
- Locational attributes including access to jobs, school quality, public safety, environmental amenities, and other “luxury goods”

Possible Adverse Consequences of Increased Rent Burdens

Constraints in supply of affordable housing and related increased rent burdens:

- Household trade-offs in consumption or intra-metropolitan location of housing and other goods so as to result in inferior life outcomes
- Moves of households and firms across metro areas resulting in reduced economic opportunity and production in less affordable places

Key Themes from the Literature

Literature points to various household adjustments due to affordability constraints, including:

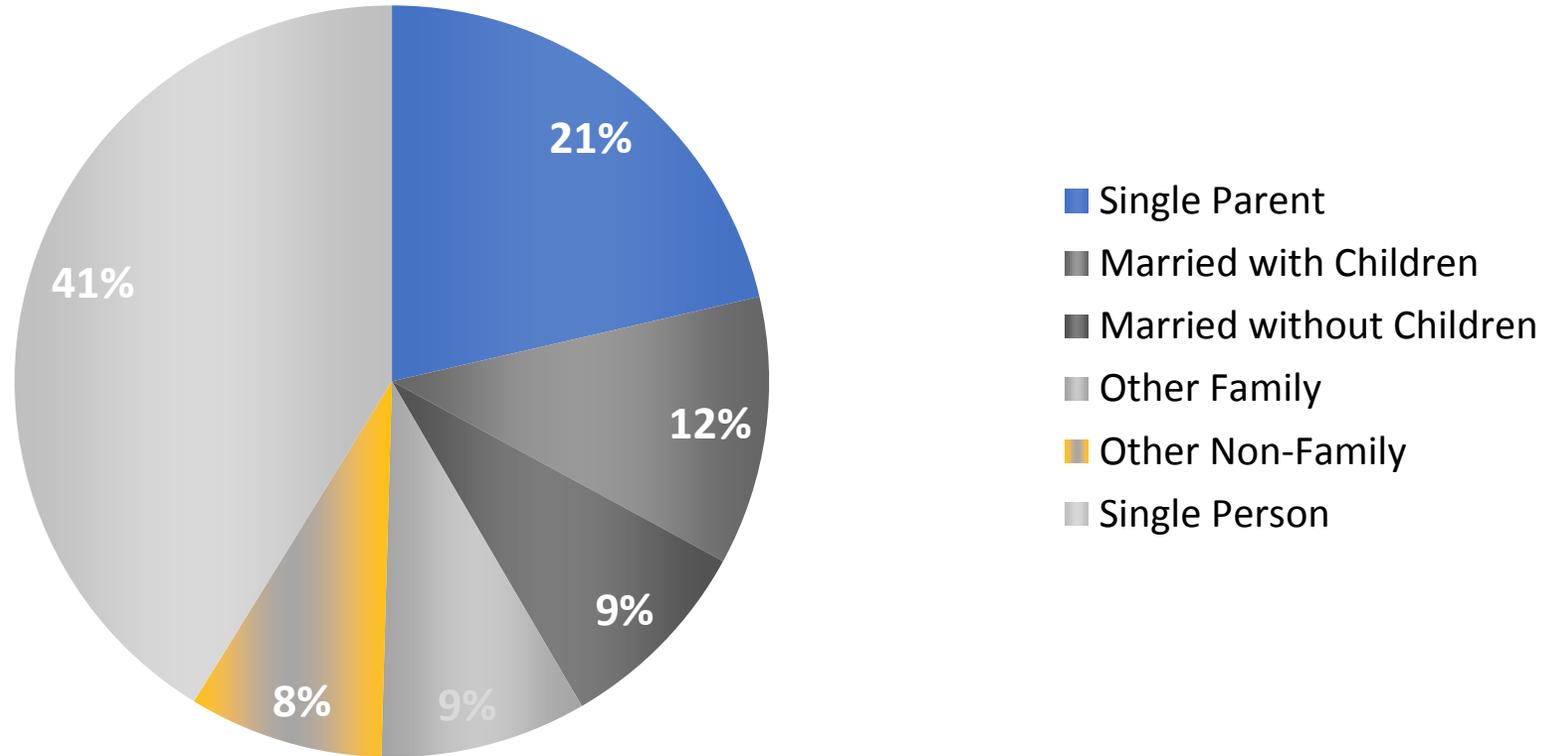
- doubling up/overcrowding (Díaz McConnell, 2016; Hernández, et al., 2016)
- reduced spending on other goods (Food, Education, Health, Energy) (Kirkpatrick & Tarasuk, 2007; Kirkpatrick & Tarasuk, 2011; Newman & Holupka, 2016)
- longer commutes (Saltana, 2002)
- lower housing and neighborhood quality (Kirkpatrick & Tarasuk, 2007; Kirkpatrick & Tarasuk, 2011)

Key Themes from the Literature

- Consequences of affordability constraints for households include:
 - Lower educational attainment for children (Lopoo & London, 2016; Mueller, & Tighe, 2007; Harkness & Newman, 2005)
 - Newman and Holupka (2016) find an inverted U-shaped relationship between the fraction of income spent on housing costs, and both cognitive achievement and enrichment spending on children
 - Inflection point is at the 30 percent threshold usually used to signify rent burden

1/3rd of Cost-Burdened Renters are Families with Children

Share of Households with Cost Burdens



Notes: Cost-burdened households pay more than 30% of income for housing. Households with zero or negative income are assumed to have severe burdens, while households paying no cash rent are assumed to be without burdens.

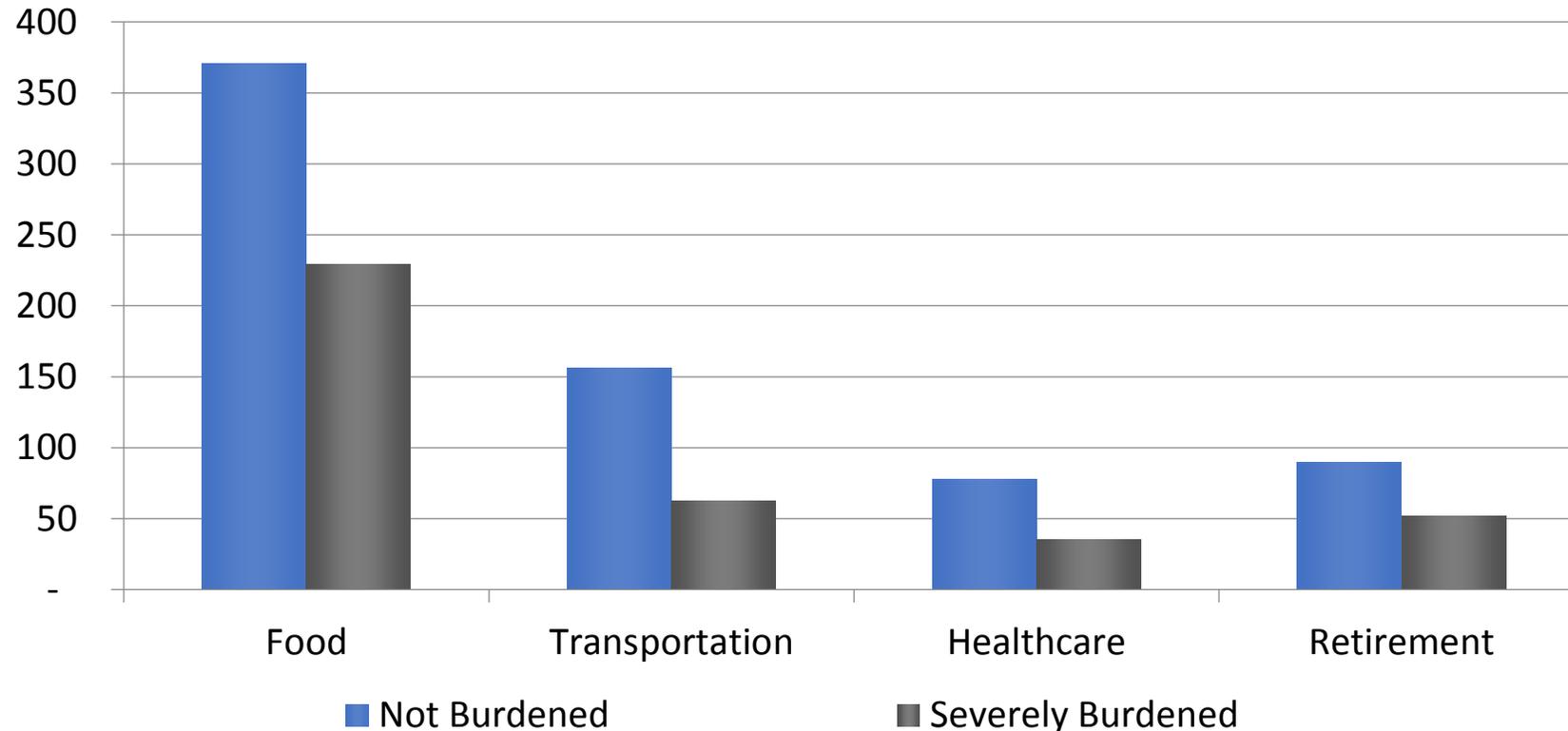
Source: JCHS tabulations of US Census Bureau, 2014 American Community Survey.

Key Themes from the Literature

- Other consequences of affordability constraints for households include:
 - Declines in mental health, reduced health care spending leading to prescription non-adherence (Mason, et al., 2013; Pollack, Griffin, & Lynch 2010)
 - Lower housing and neighborhood quality reduces a child's long term labor market outcomes (Chetty et al, 2015)

Severely Burdened Households have Limited Financial Capacity for Other Vital Needs

Monthly Spending by Renters in the Bottom Expenditure Quartile (Dollars)



Notes: Severely cost-burdened households pay more than 50% of income for housing. Households with zero or negative income are assumed to be severely burdened, while households paying no cash rent are assumed to be without burdens. Quartiles are equal fourths of all households ranked by total spending. Retirement expenditures are for renters under age 65 only.

Source: JCHS tabulations of US Bureau of Labor Statistics, 2014 Consumer Expenditure Survey.

Key Themes from the Literature

- At the metropolitan level, housing affordability constraints are associated with:
 - more commuting and increased congestion
 - out-migration of households and firms to more affordable areas
 - reductions in metropolitan job creation and economic activity

Key Themes from the Literature

- In the literature, lack of affordability is associated with:
 - greater separation between jobs and housing leading to longer commutes and congestion (Cervero, 1989; Cervero, 1996; Saltana, 2002)
 - greater income equality in a metropolitan region is associated with stronger economic growth and lesser impact from recessions (Turner, 2009; Abiad, et al., 2015; Benner & Pastor, 2015)

Conclusions from the Literature

- Substantial literature suggests a negative association between affordability constraints and household well-being, including quantity and quality of housing consumed (crowding), commutes, spending on other goods including health care, child well-being and educational achievement, and child long-run job prospects
- At the metro level, constraints on housing affordability are associated with congestion costs, out-migration of households and firms, limitations on job growth, and reductions in economic base and activity

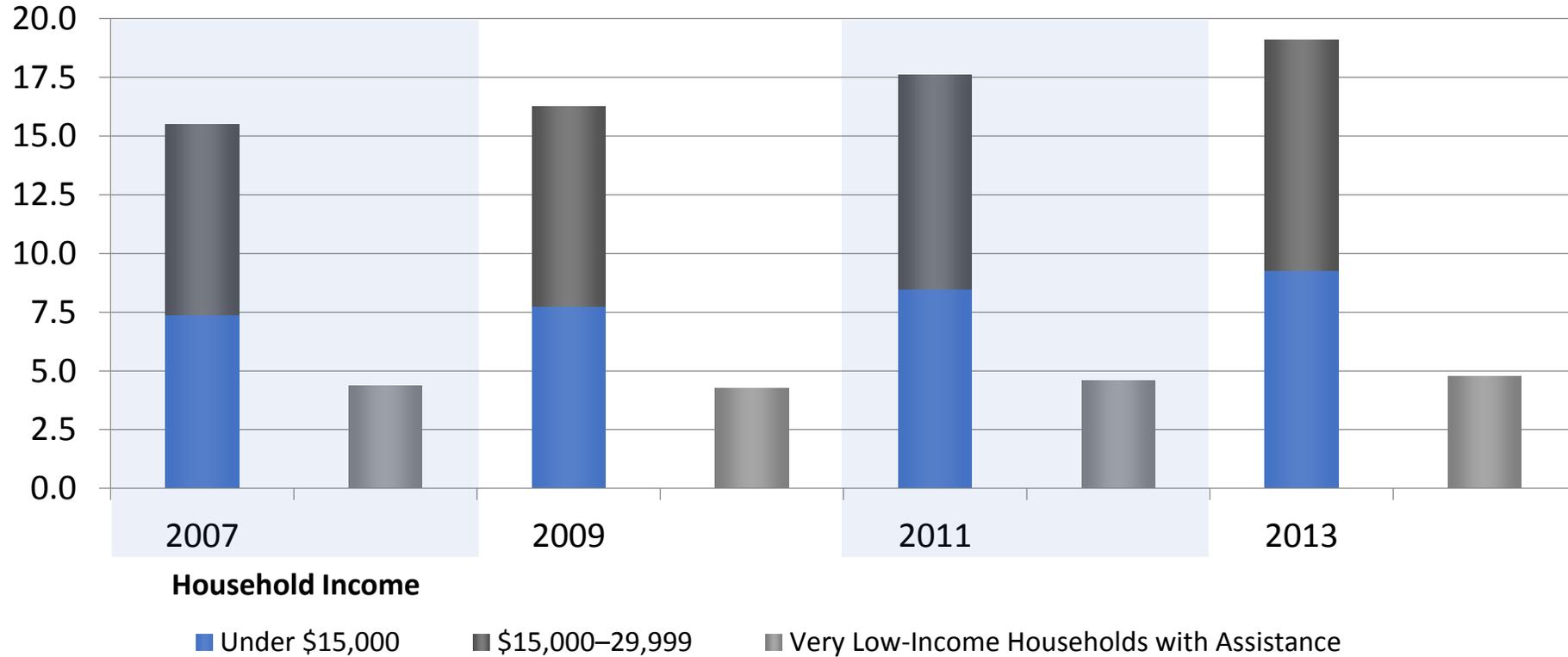
Suggestions for Affordability Policy

Local policy can seek to mitigate some of the deleterious household outcomes associated with lack of affordability. For example,

- improvements in rapid transit can lower commute burdens of households while expanding access of burdened households from lower-rent areas
- development of affordable units (via LIHTC or otherwise) and housing voucher use can be encouraged in proximity to those same transit lines
- access to housing in distant lower-rent areas can also diminish crowding
- state authorities and local school districts can seek to spread resources so as to diminish variation in school quality, child educational access and related job prospects across more or less affordable areas
- local authorities can also seek to ensure adequacy of environmental quality and other amenities across more- and less-affordable areas so as to contribute to population health and welfare

Growth in Very Low-Income Renter Households Far Exceeds Increases in Households with Rental Assistance

Renter Households (Millions)

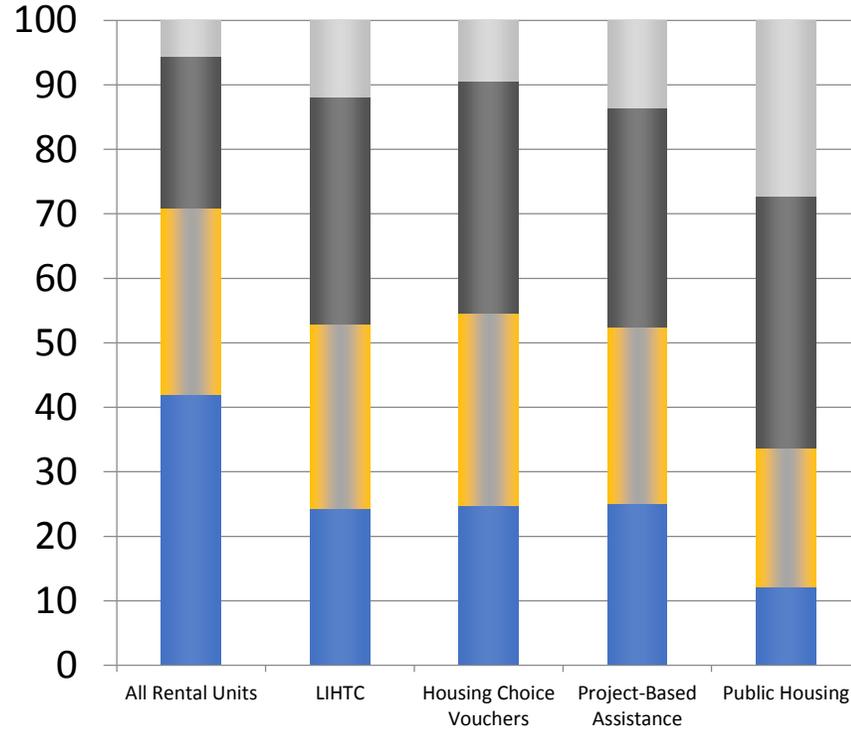


Notes: Household incomes are adjusted for inflation using the CPI-U for All Items. Household counts by income are based on three-year trailing averages. Very low-income renter households have incomes up to 50% of local area medians.

Sources: JCHS tabulations of US Census Bureau, Current Population Surveys; US Department of Housing and Urban Development, Worst Case Housing Needs Reports to Congress.

Compared with Public Housing, LIHTC and Voucher Units are Less Concentrated in High-Poverty, High-Minority Areas

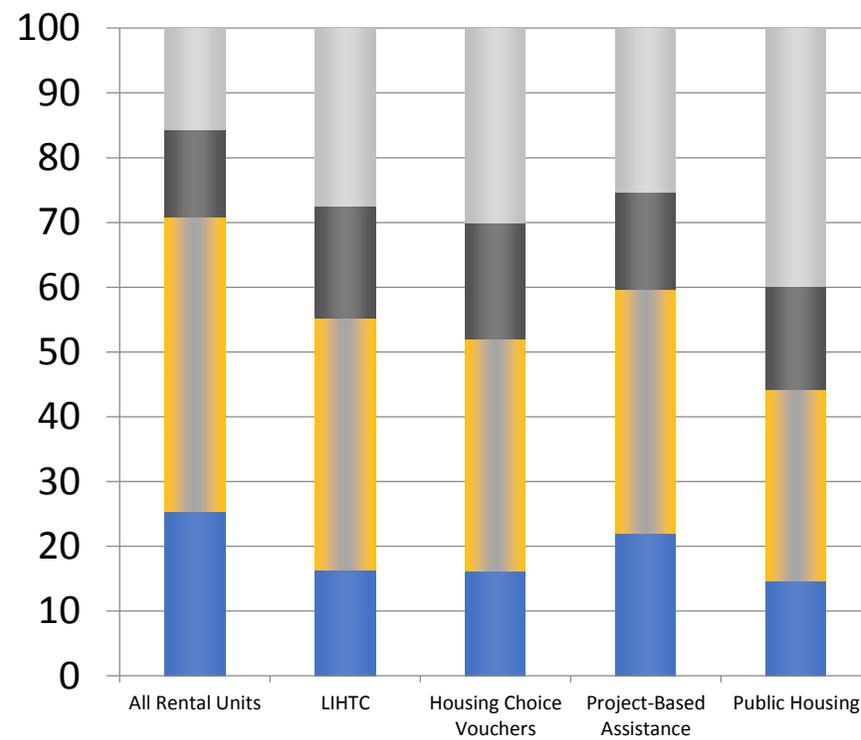
Distribution of Units (Percent)



Poverty Rate in Census Tract (Percent)

■ Under 10 ■ 10-19 ■ 20-39 ■ 40 and Over

Distribution of Units (Percent)



Black and Hispanic Population Share in Census Tract (Percent)

■ Under 10 ■ 10-49 ■ 50-74 ■ 75 and Over

Notes: Poverty rate refers to share of families in census tract that are living below the poverty level

Source: JCHS tabulations of US Census Bureau, 2009-2013 Five-Year American Community Survey; US Department of Housing and Urban Development, 2013 Picture of Subsidized Households and LIHTC database.

Metropolitan Adjustments

Efforts to mitigate adverse effects of lack of affordability are well-known

- Easing of land-use regulation and encouragement of more densified development;
- Subsidization of affordable units for critical workforce (public safety, teachers, public health, and the like);
- Transportation infrastructure development to enhance access and reduce area-wide congestion
- Preservation of existing low-income housing supply (Section 8 new construction contracts have been expiring)
- Inclusionary Zoning

What Next?

- There is no “silver bullet”
- In some places, rent burden is driven by rents appreciating even more quickly than incomes
- In other places, rents are stable, but incomes are declining
- Regardless, local policy can and should address consequential issues of school and environmental quality, exposure to violence, access to jobs, and other adverse attributes often prevalent in low-affordability neighborhoods.



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MEASURES OF HOUSING AFFORDABILITY AND INEQUALITY

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*TEL AVIV UNIVERSITY

** UNIVERSITY OF CALIFORNIA AT LOS ANGELES



BACKGROUND

Housing affordability measures:

- *Housing loan repayment-to-income* (“repayment affordability”)
 - (e.g., Brounen *et al.*, 2006; and Jones, 1989)
- *Ongoing housing cost-to-income* (“income affordability”)
 - (e.g., Smets, 1999; Ong, 2000; Brounen *et al.*, 2006; and Haffner and Heylen, 2011)
- *Debt-to-housing price* (“down-payment” affordability)
 - (e.g., Hendershott *et al.*, 1980; Jones, 1989; Gyourko and Linneman, 1993; Mayer and Engelhardt, 1996; Gyourko and Tracy, 1999; and Norris and Shiels, 2007)
- *Housing price-to-income* (“general” affordability)
 - e.g., Weicher, 1977; Bogdon and Can, 1997; Thalmann, 1999; Quigley and Raphael, 2004; Belsky *et al.*, 2005; Stone, 2006; and Kim and Cho, 2010;

BIAS IN THE WAY AFFORDABILITY IS MEASURED

Consider a household living in Anaheim, CA that consists of 2 adults and 3 kids

→ Total of 5 persons.

Suppose that this household:

- Occupies a 600 sqft housing unit whose value is \$177K;
- Earns an annual net (after tax) income of \$40K.

$$\text{Price-to-Income} = \frac{\$177K}{\$40K} = 4.4 \text{ years of net income}$$

Note, however, that this household's housing consumption—at \$177K—is about half of the median consumption for the same demographic unit in Anaheim, CA.

If we match this household with the median housing consumption of households with the same demographic characteristics in Anaheim, CA – 900 sqft unit whose average value is \$345K – we see that housing affordability is actually much deteriorated

$$\text{Standardized Price-to-Income} = \frac{\$345K}{\$40K} = 8.6 \text{ years of net income}$$

ANOTHER QUICK EXAMPLE

Consider a household living in the central city of San Francisco that consists of 2 adults

→ Total of 2 persons.

Suppose that this household:

- Occupies a 2,500 sqft apartment whose value is \$4.0M;
- Earns an annual net income of \$250K.

$$\text{Price-to-Income} = \frac{\$4.0M}{\$250K} = 16 \text{ years of net income}$$

Note, however, that this household's housing consumption—at \$4M—is much higher than the median consumption for the same demographic unit in central city SF.

If we match this household with the median housing consumption of households with the same demographic characteristics in the central city of SF – 1,170 sqft unit whose average value is \$1.4M—we see that housing affordability is actually much improved

$$\text{Standardized Price-to-Income} = \frac{\$1.4M}{\$250K} = 5.6 \text{ years of net income}$$

THE PROBLEM

Hence, there is an inherent bias in the estimation of housing affordability due to:

1. Households with more income often choose larger housing consumption bundles so as to make their affordability appear worse, whereas the opposite is true for lower-income households;
2. Households may choose to consume more or less housing services (versus consumption of other goods) based solely on distinct individual preferences.

THE SOLUTION

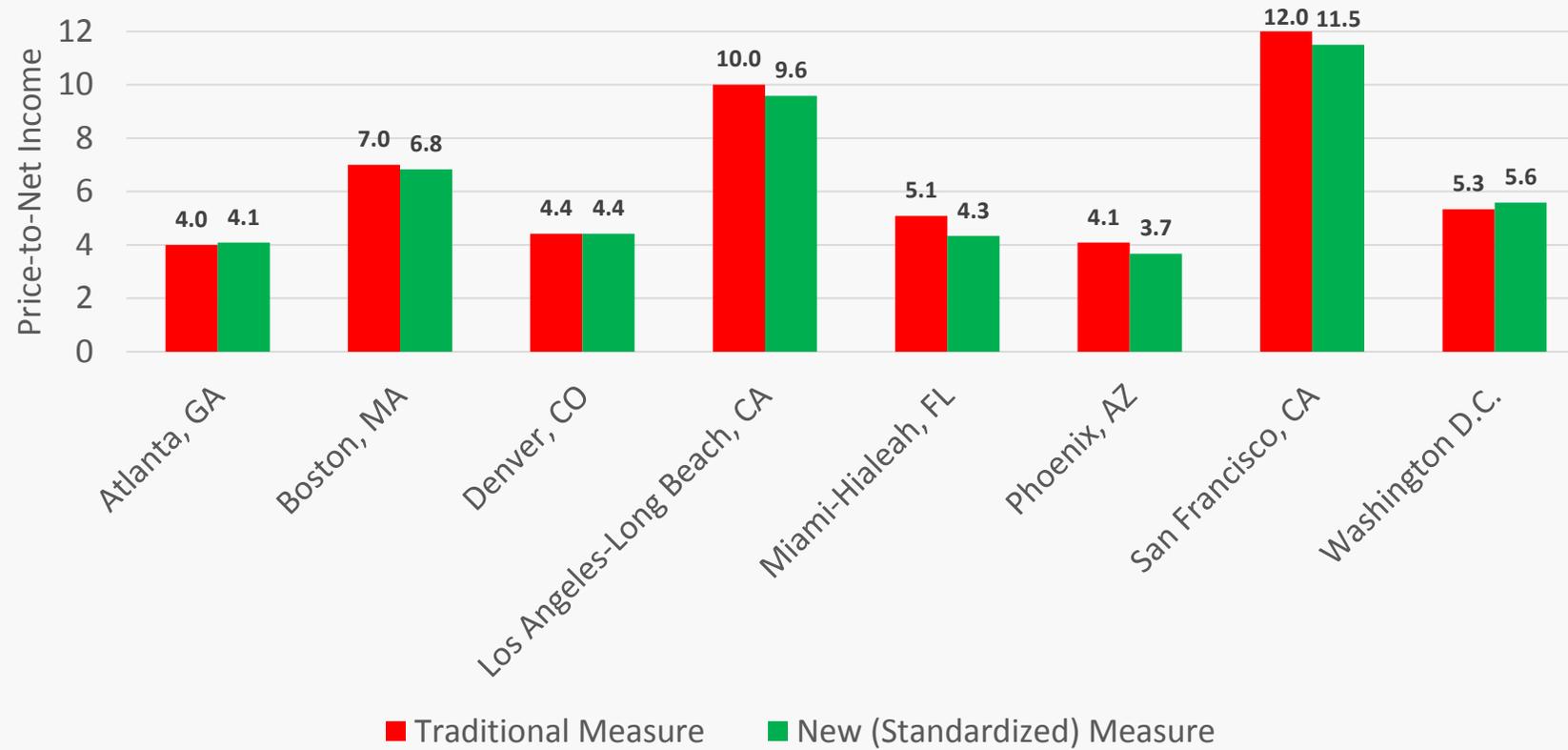
- Using information on household demographic and locational characteristics, we first match each household to the median housing consumption bundle of all households who:
 - Live in the same geographic location (either in central or peripheral zones of the MSA);
 - Possess the same demographic characteristics.
- This “standardized” household housing consumption bundle is robust to variation in housing consumption due to income differences or to disparate individual preferences.
- We then compute housing affordability for each household based on its location- and demographically-standardized consumption bundle.

THE SAMPLE

- The sample is based on the American Housing Survey (AHS) over the period 2011-2013;
- AHS is the most comprehensive national housing survey in the U.S. (sponsored by HUD) providing information on selected housing and demographic characteristics;
- We use that information to compute actual housing affordability ("traditional measure") and standardized housing affordability ("standardized measure" – matching each household to the median housing consumption bundle based on its location and demographic characteristics);
- Each MSA appears in the most recent year for which the survey provided sufficient number of observations for statistical analysis (2011-2013);
- Results are shown for 10 major MSAs and 10 tertiary MSAs.

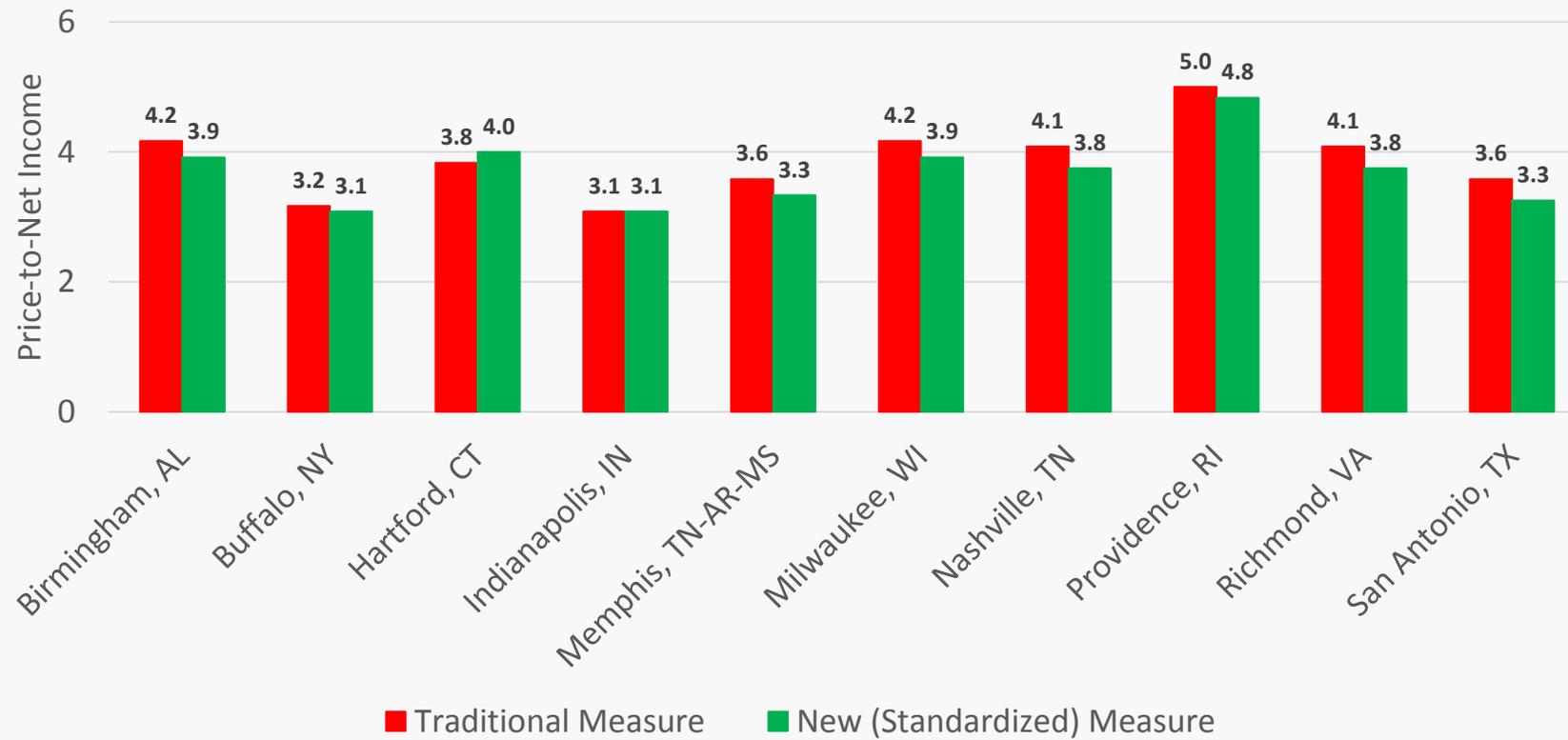
AVERAGE TRADITIONAL AND STANDARDIZED MEASURES OF HOUSING AFFORDABILITY

Select Major MSAs



AVERAGE TRADITIONAL AND STANDARDIZED MEASURES OF HOUSING AFFORDABILITY

Select Tertiary MSAs



HOUSING AFFORDABILITY INEQUALITY

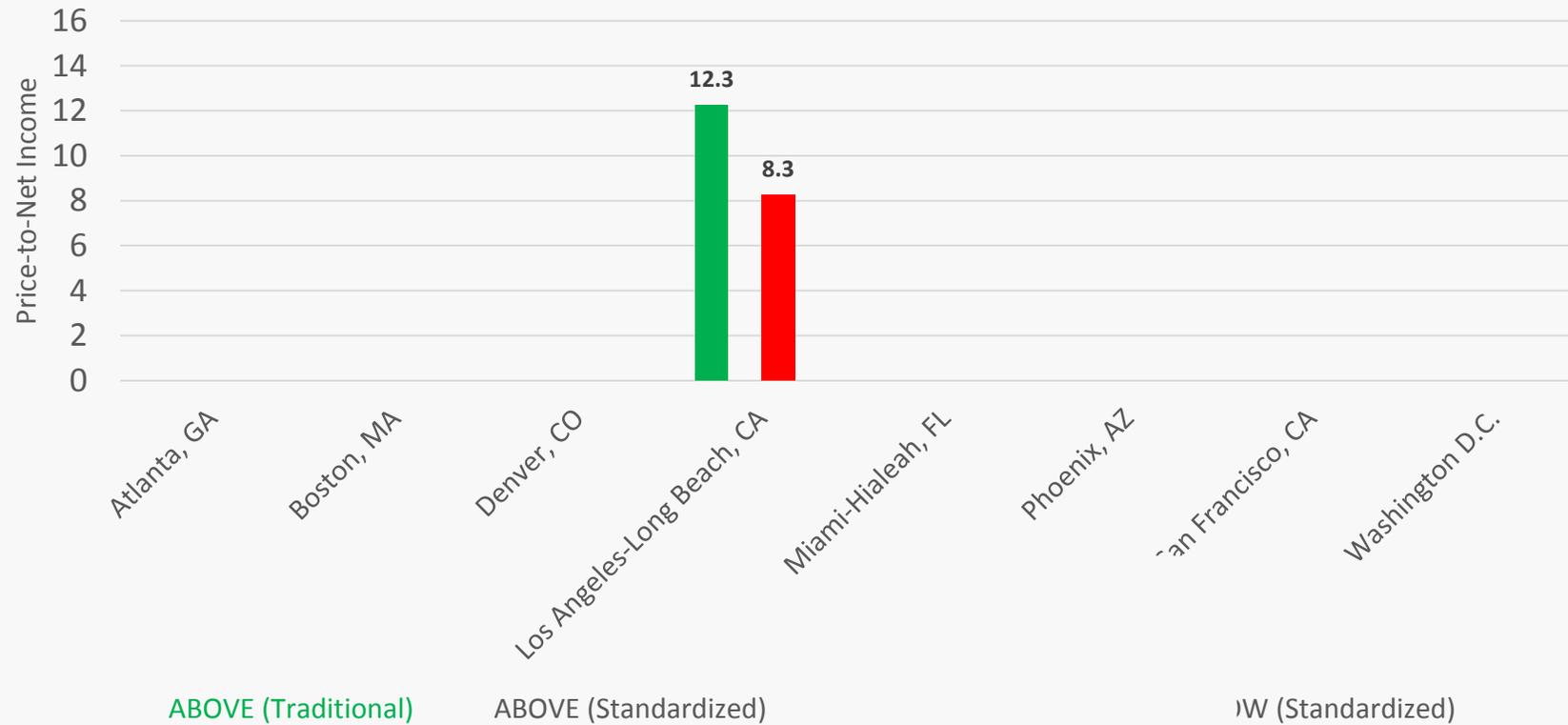
HOUSING AFFORDABILITY INEQUALITY

We stratify the sample of households in each MSA by housing consumption below and above median of the demographically-defined reference group:

- Households with actual consumption above the median consumption of their reference group are marked in **green**;
- Households with actual consumption below the median consumption of their reference group are marked in **red**.

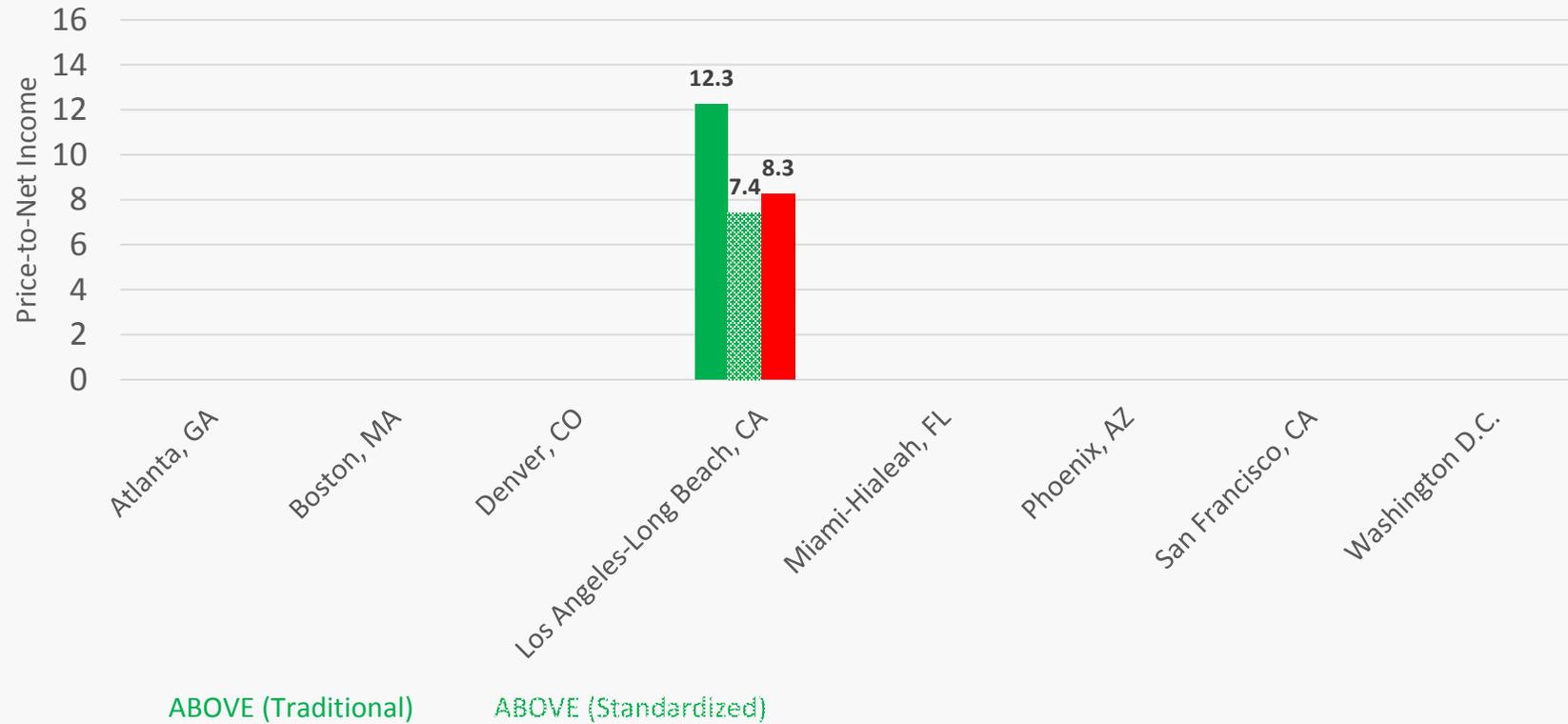
OUTCOMES ON HOUSING AFFORDABILITY INEQUALITY

Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income):
Select Major MSAs



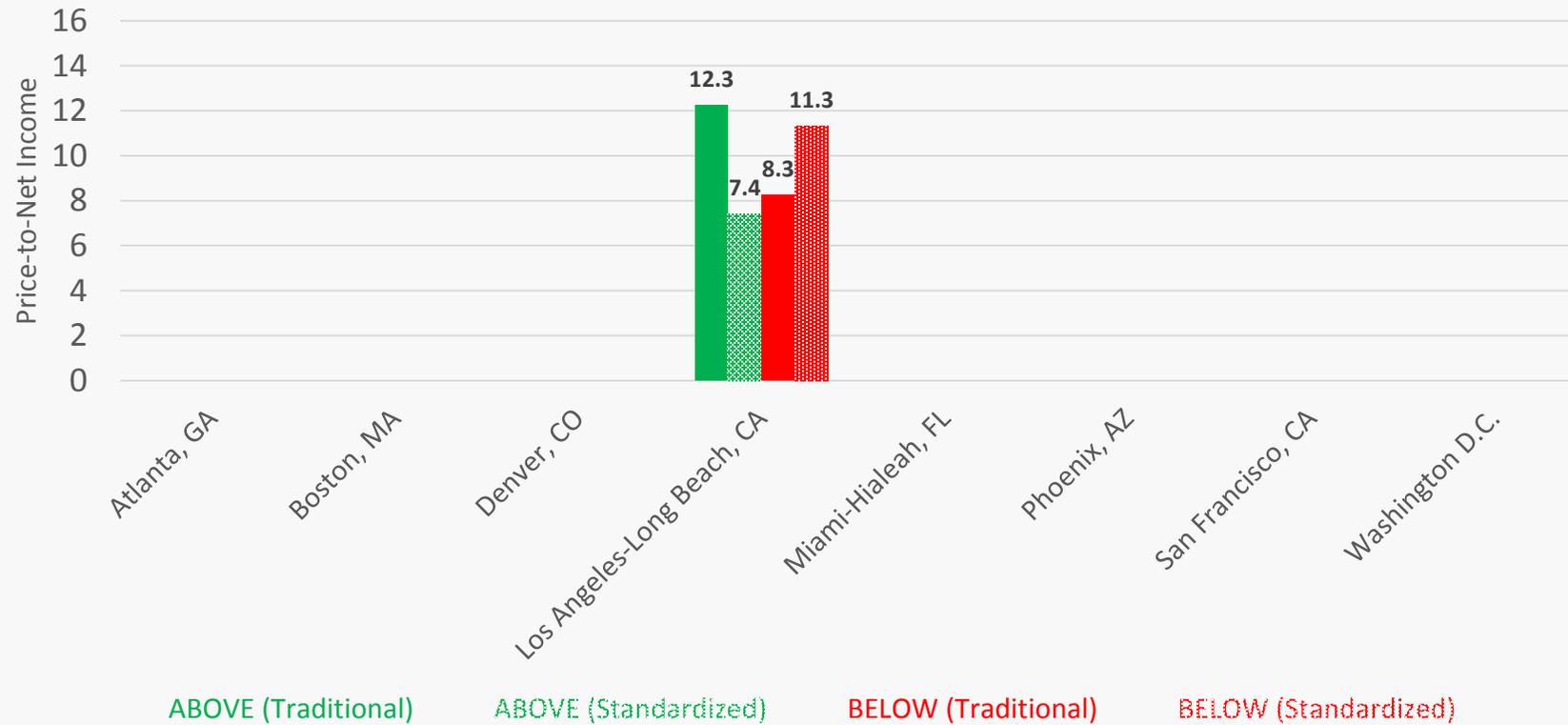
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Select Major MSAs



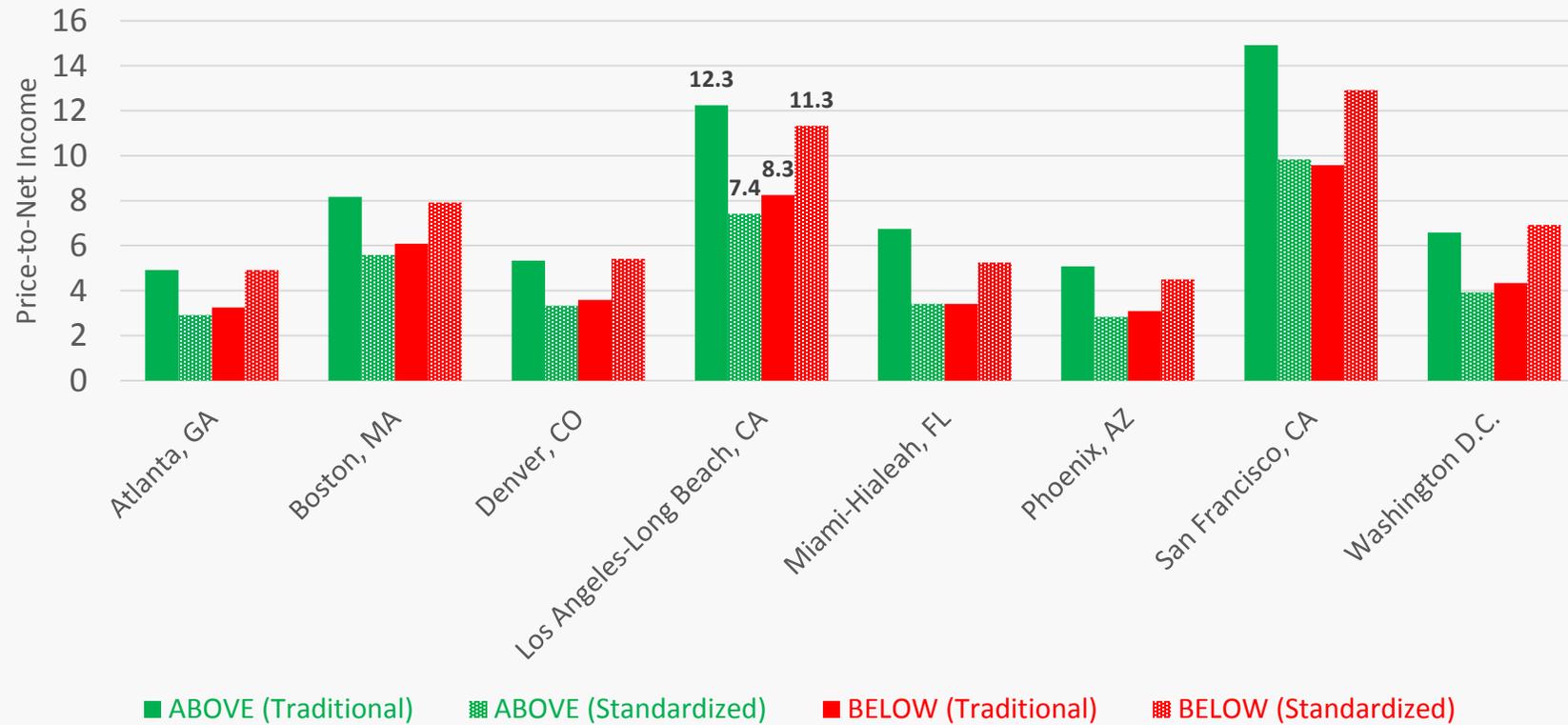
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Select Major MSAs



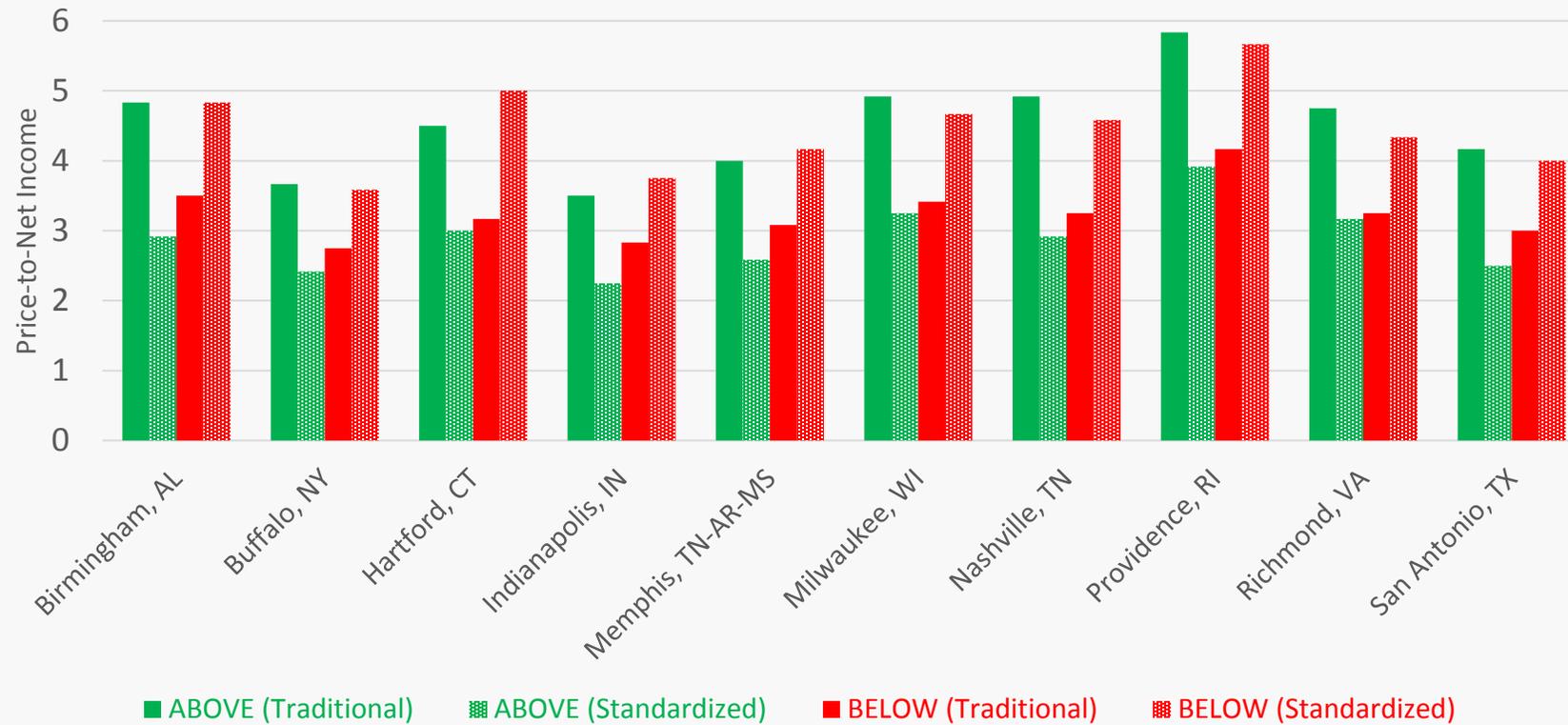
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Select Major MSAs



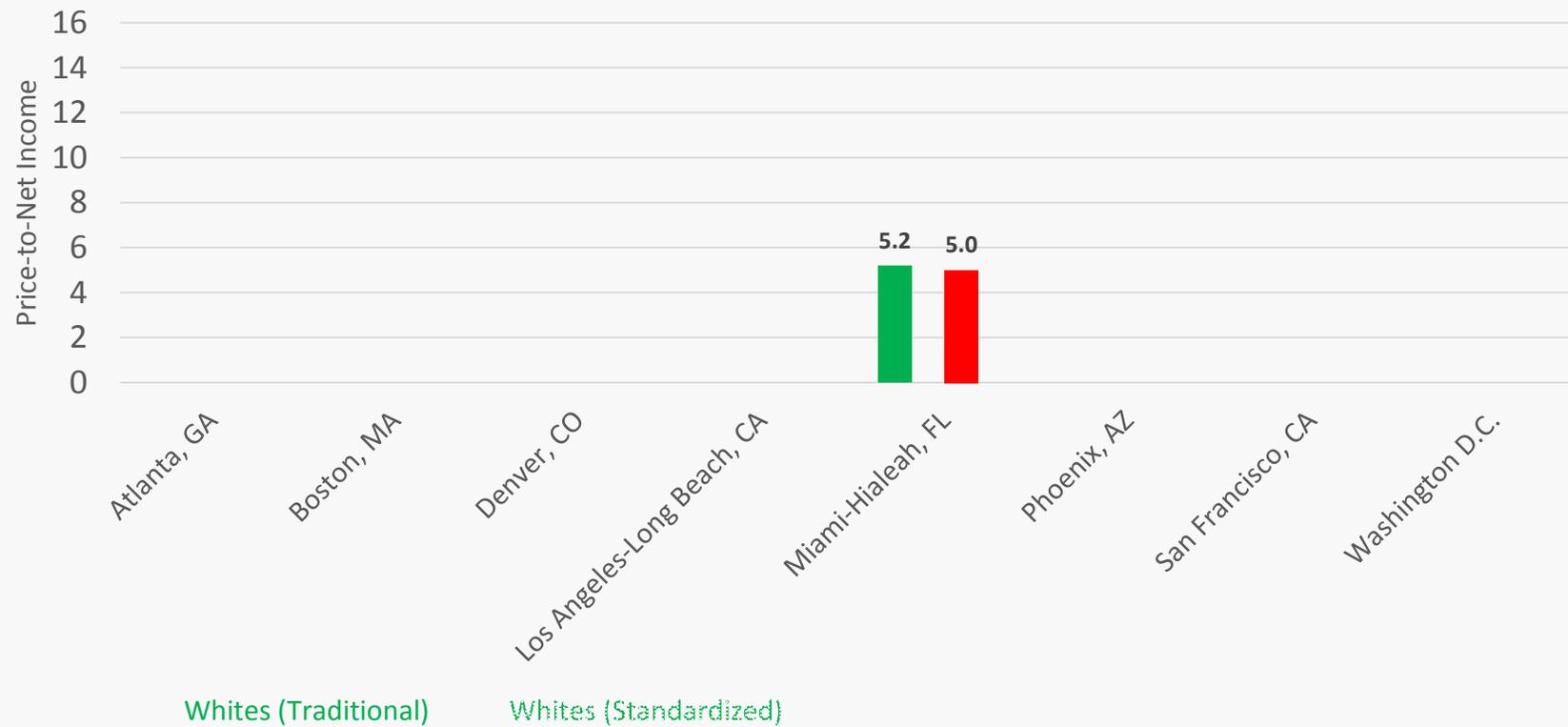
OUTCOMES ON HOUSING AFFORDABILITY INEQUALITY

Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income):
Select Tertiary MSAs



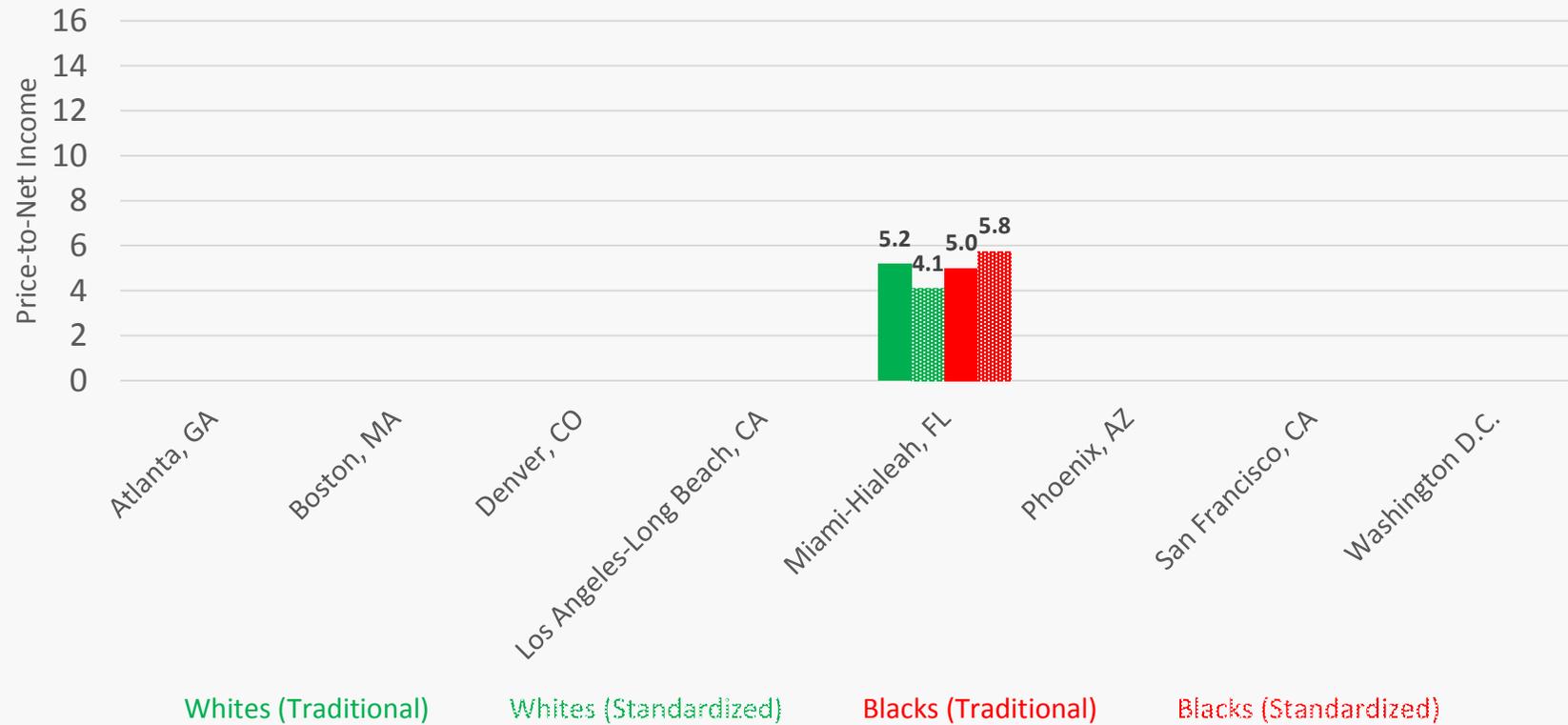
AFFORDABILITY OUTCOMES AMONG WHITE AND BLACK HEADED HOUSEHOLDS

Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income) in Select Major MSAs



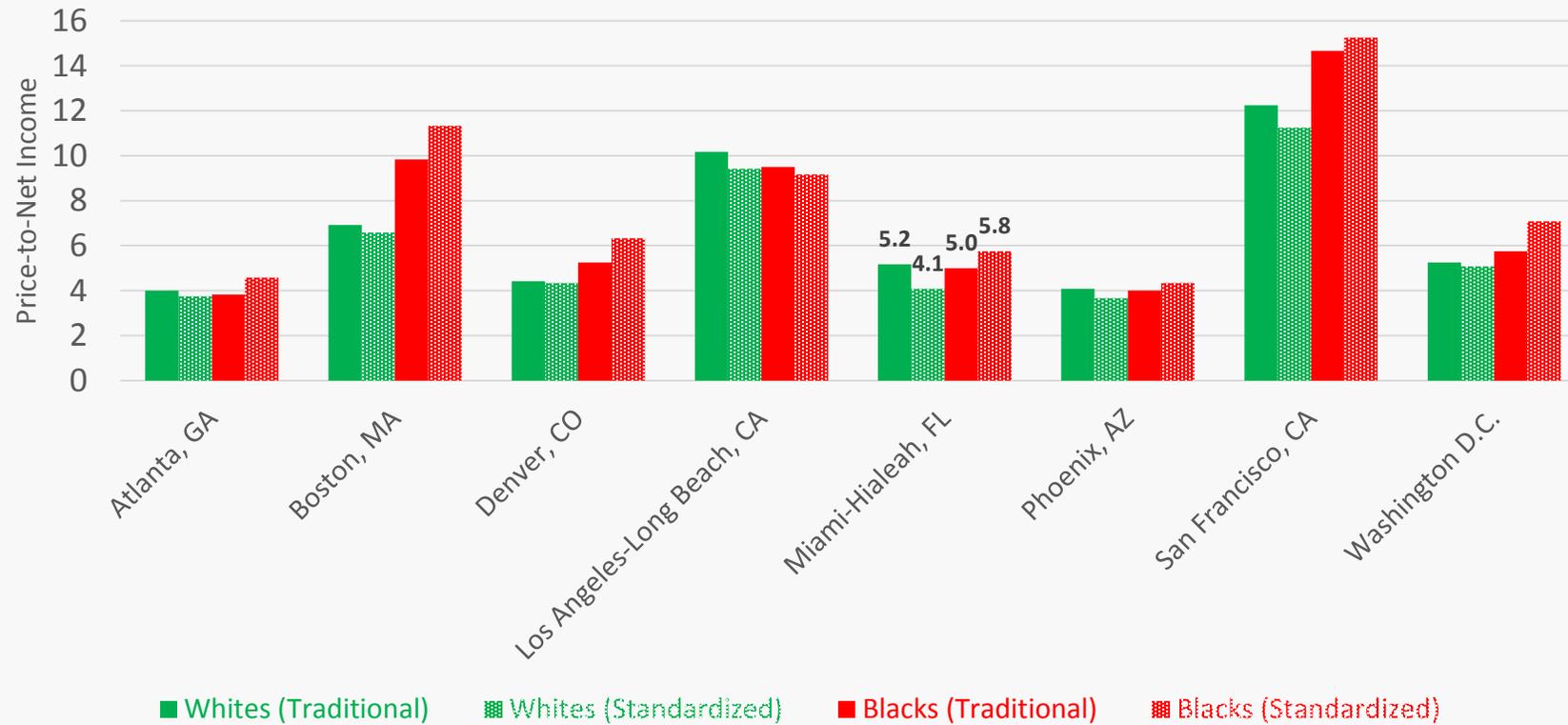
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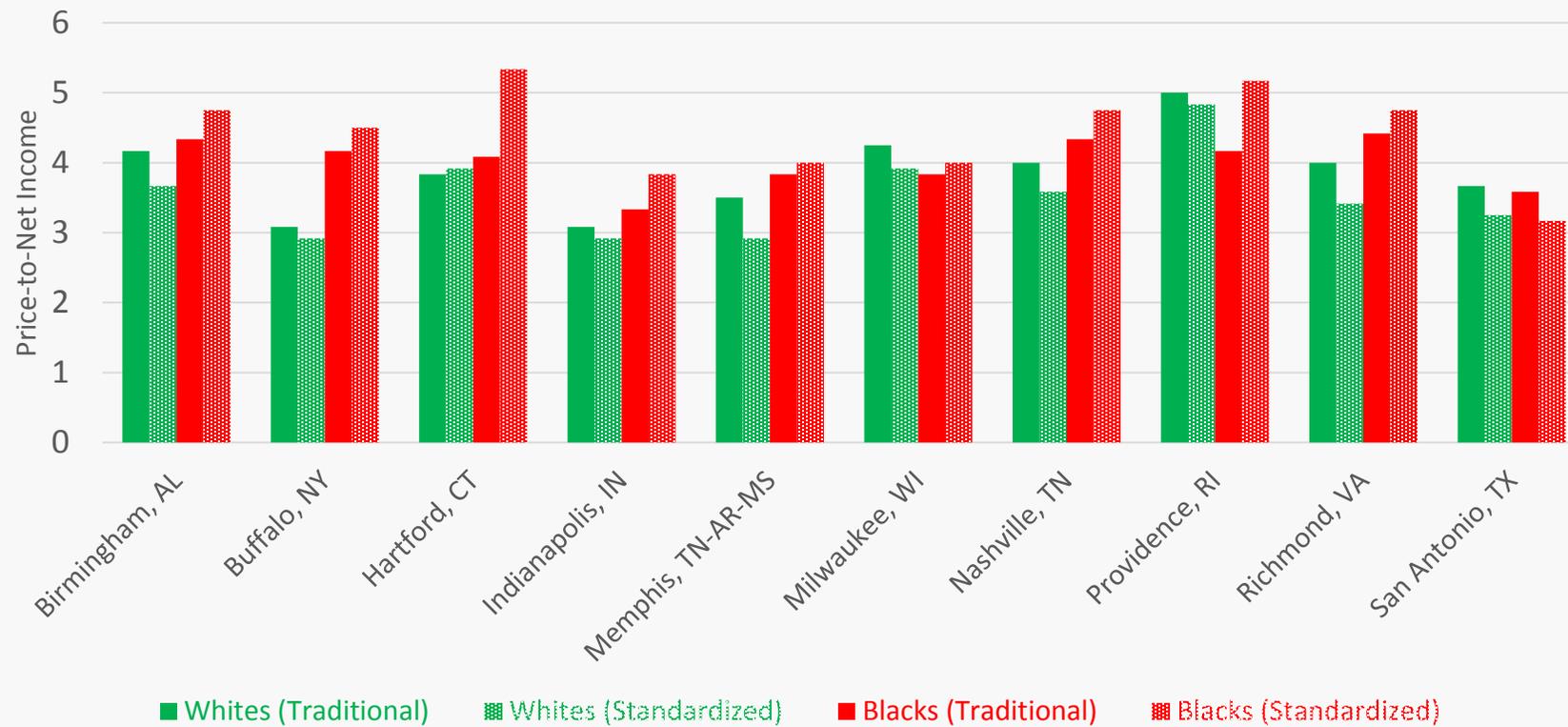
AFFORDABILITY OUTCOMES AMONG WHITE AND BLACK HEADED HOUSEHOLDS

Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income) in Select Major MSAs



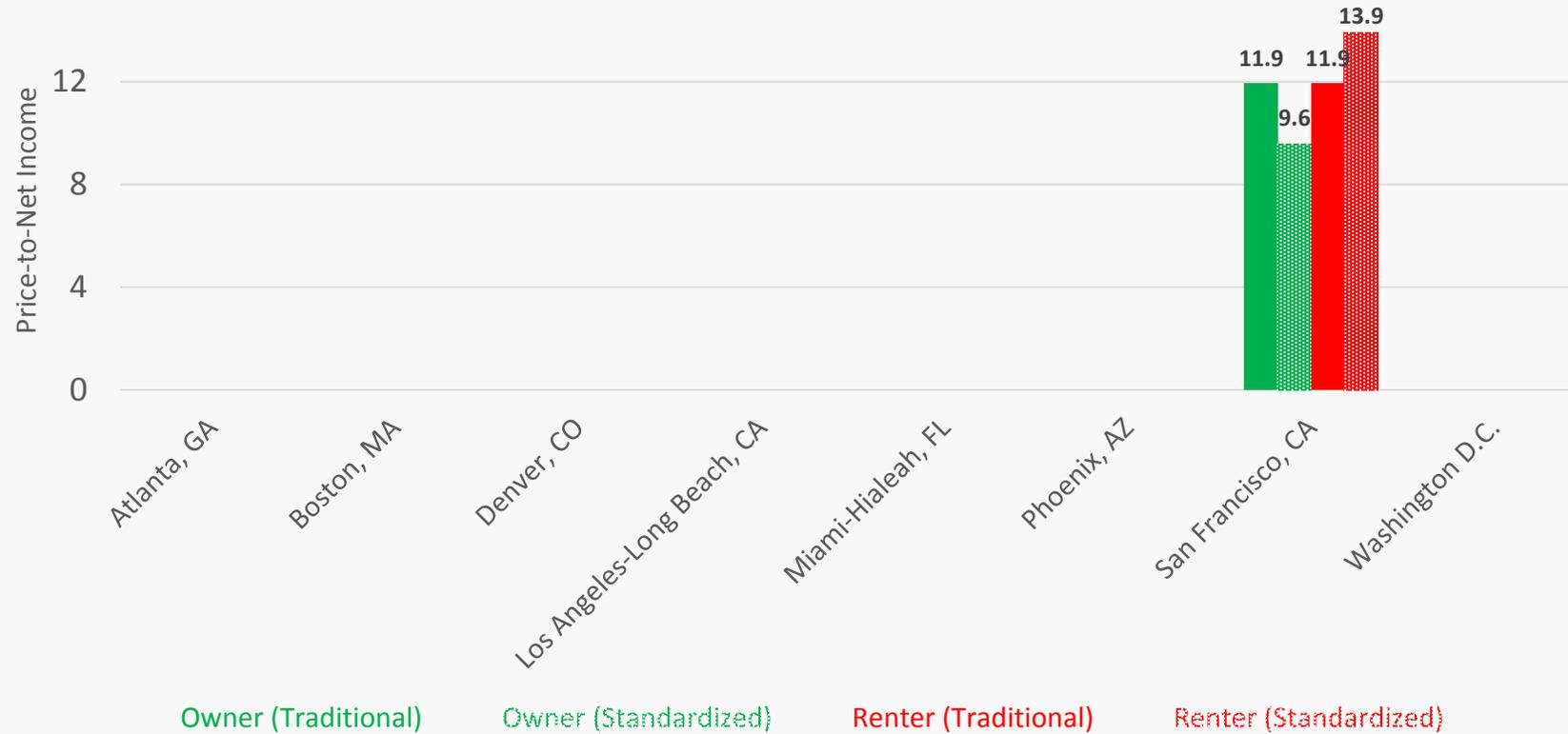
AFFORDABILITY OUTCOMES AMONG WHITE AND BLACK HEADED HOUSEHOLDS

Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income) in Select Tertiary MSAs



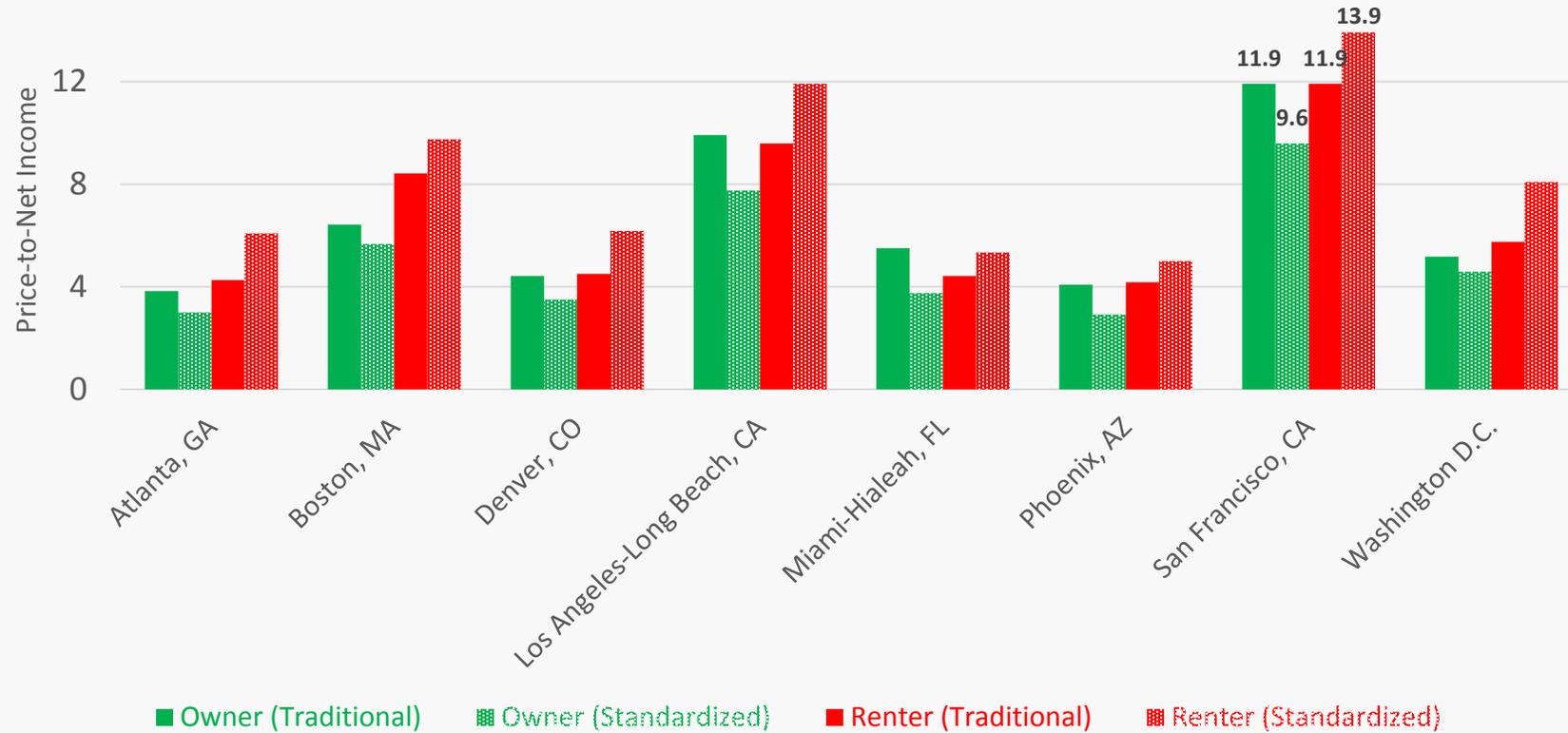
AFFORDABILITY OUTCOMES AMONG OWNERS AND RENTERS

Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income) in Select Major MSAs



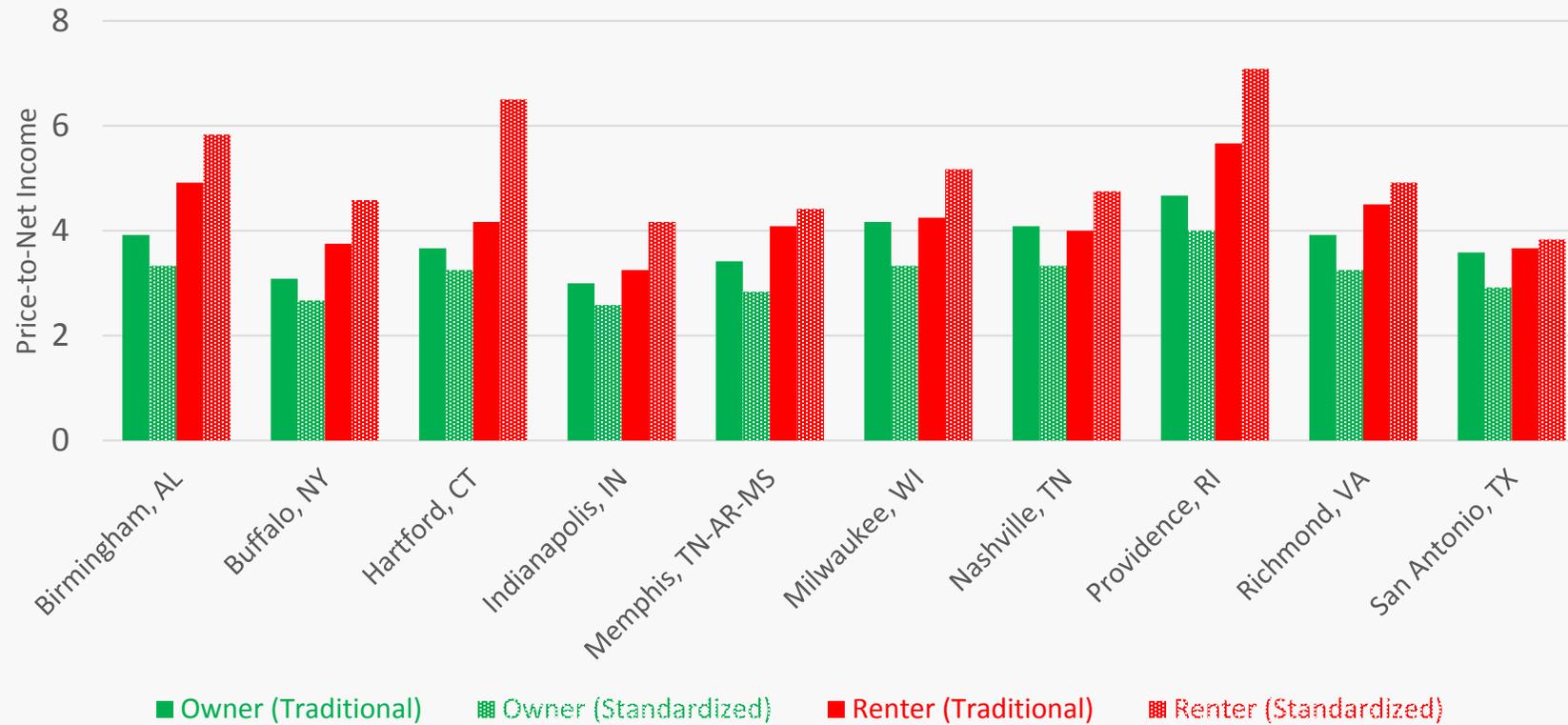
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Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income) in Select Major MSAs



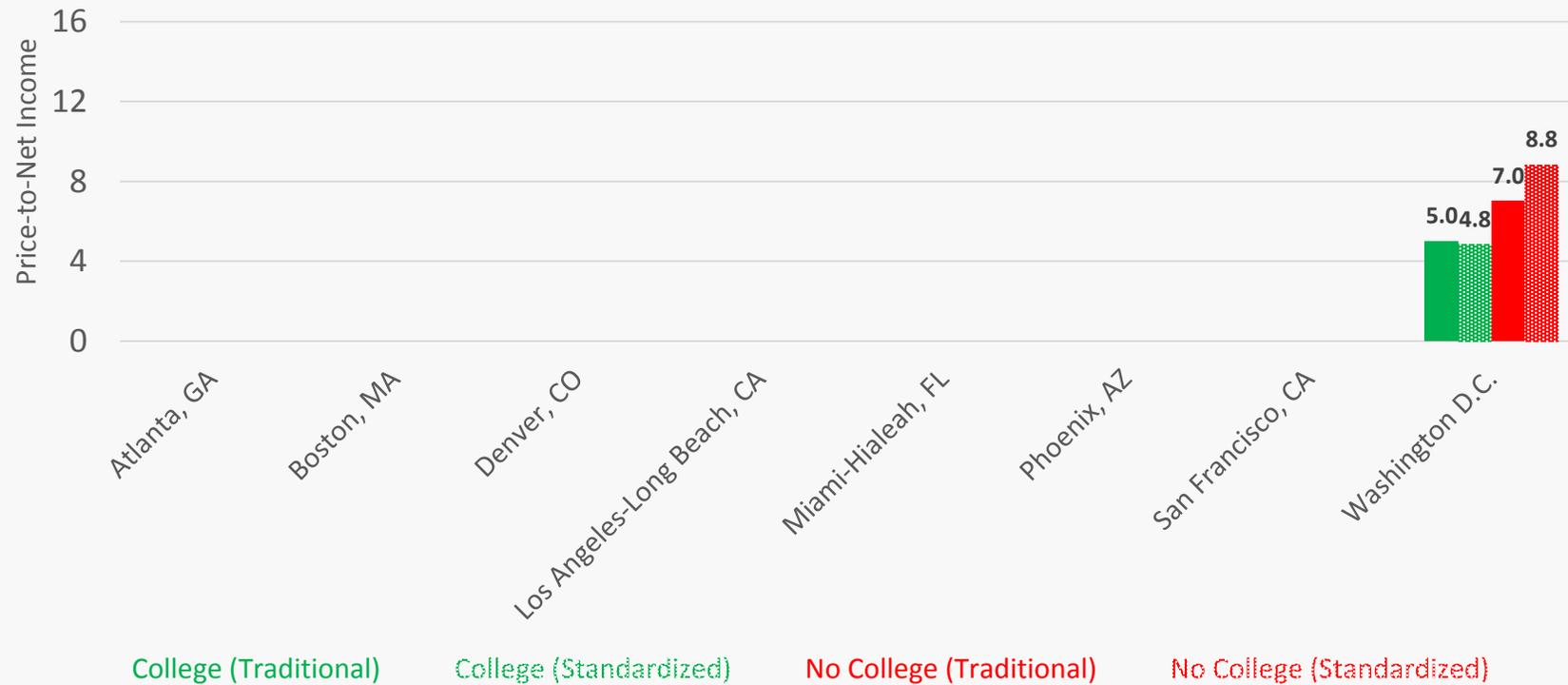
AFFORDABILITY OUTCOMES AMONG OWNERS AND RENTERS

Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income) in Select Tertiary MSAs



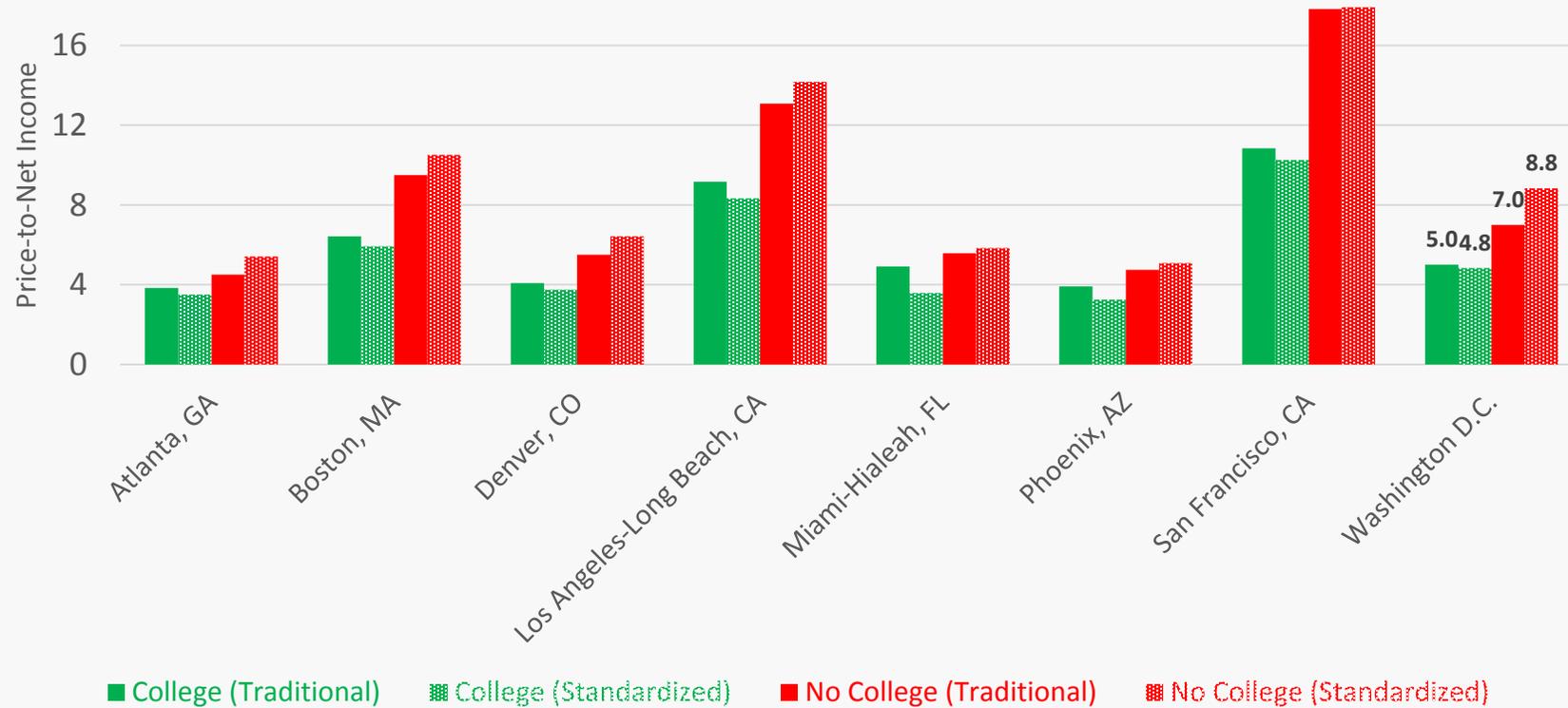
AFFORDABILITY OUTCOMES AMONG COLLEGE AND NON-COLLEGE HEADED HOUSEHOLDS

Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income) in Select Major MSAs



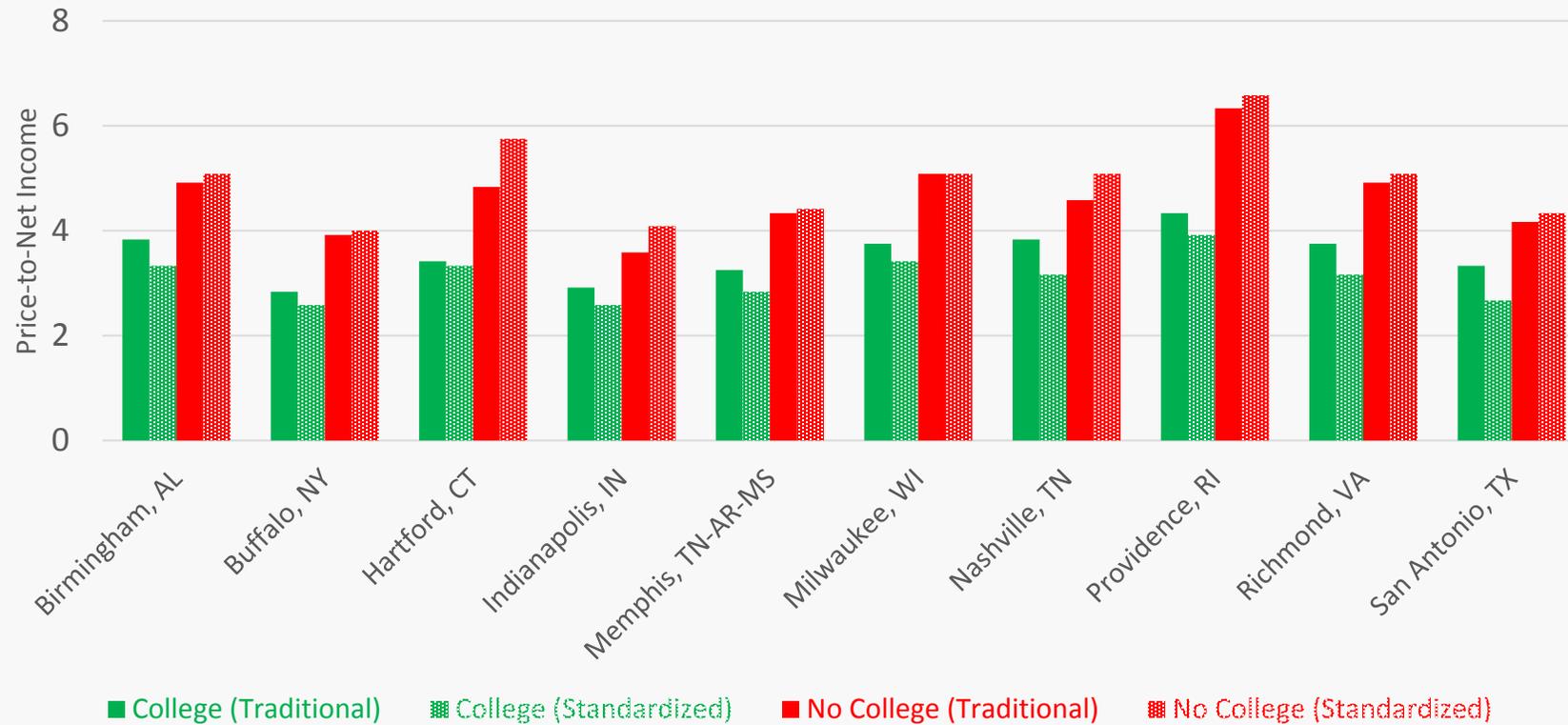
AFFORDABILITY OUTCOMES AMONG COLLEGE AND NON-COLLEGE HEADED HOUSEHOLDS

Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income) in Select Major MSAs



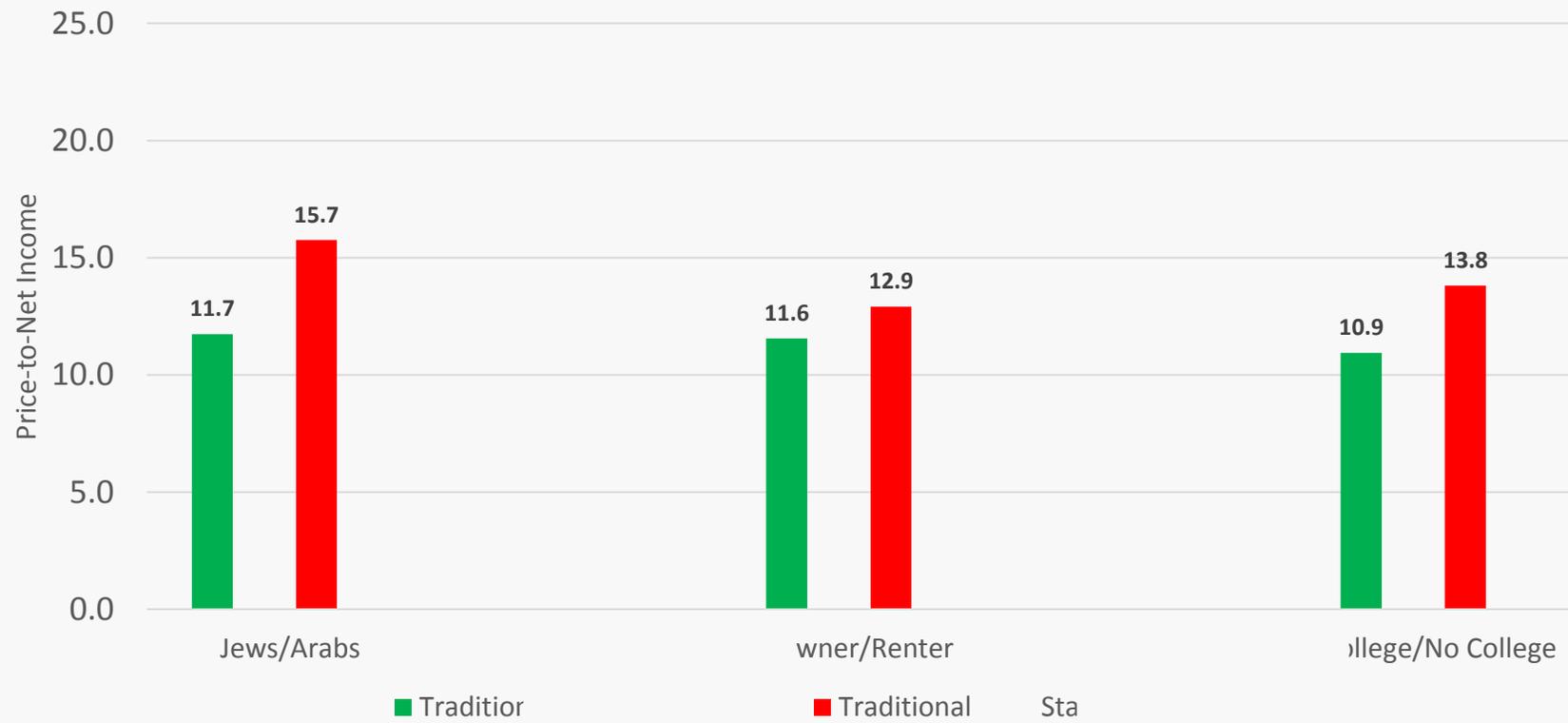
AFFORDABILITY OUTCOMES AMONG COLLEGE AND NON-COLLEGE HEADED HOUSEHOLDS

Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income) in Select Tertiary MSAs



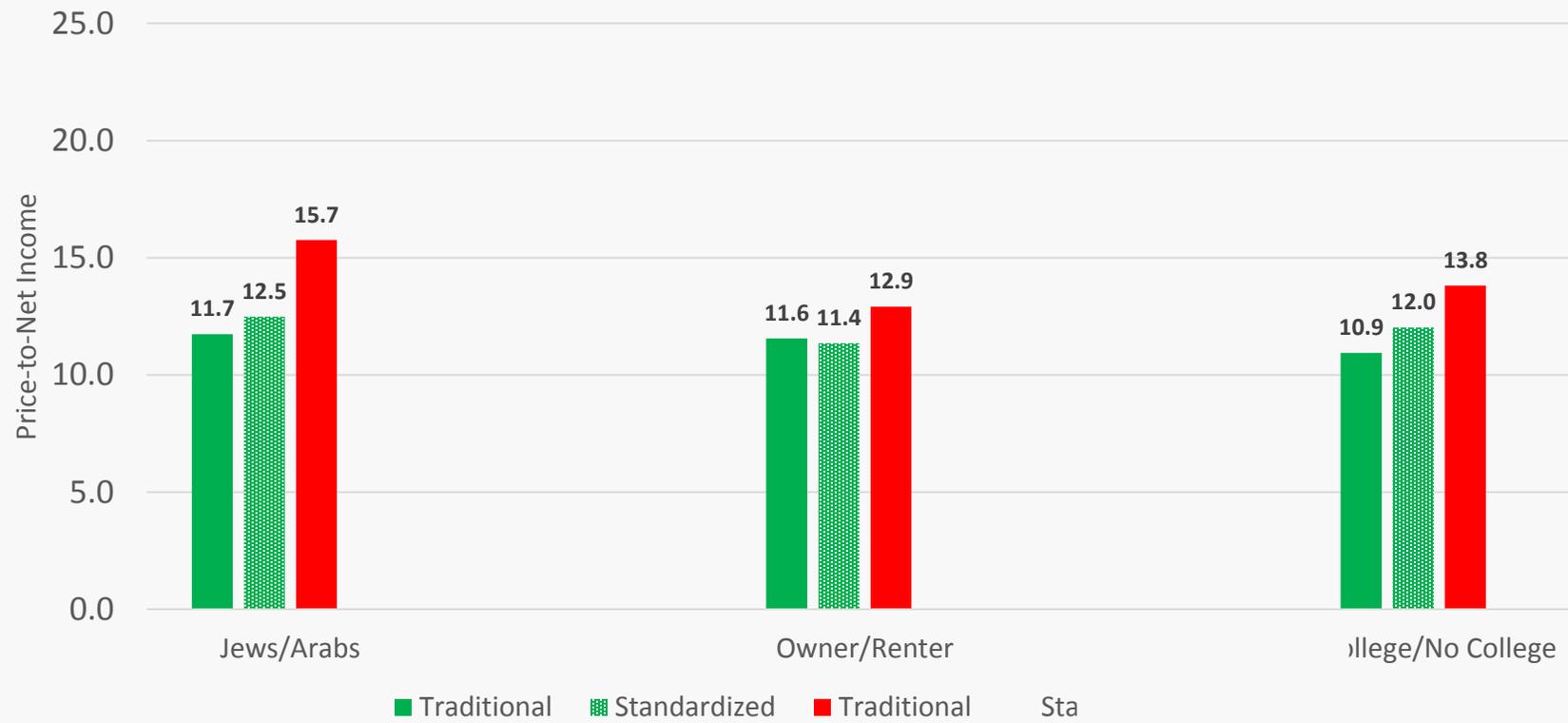
AFFORDABILITY OUTCOMES FOR THE ISRAELI HOUSING MARKET

Traditional vs. Standardized Housing Affordability (Price-to-Annual-Income) by Household Characteristic, Israel 2015



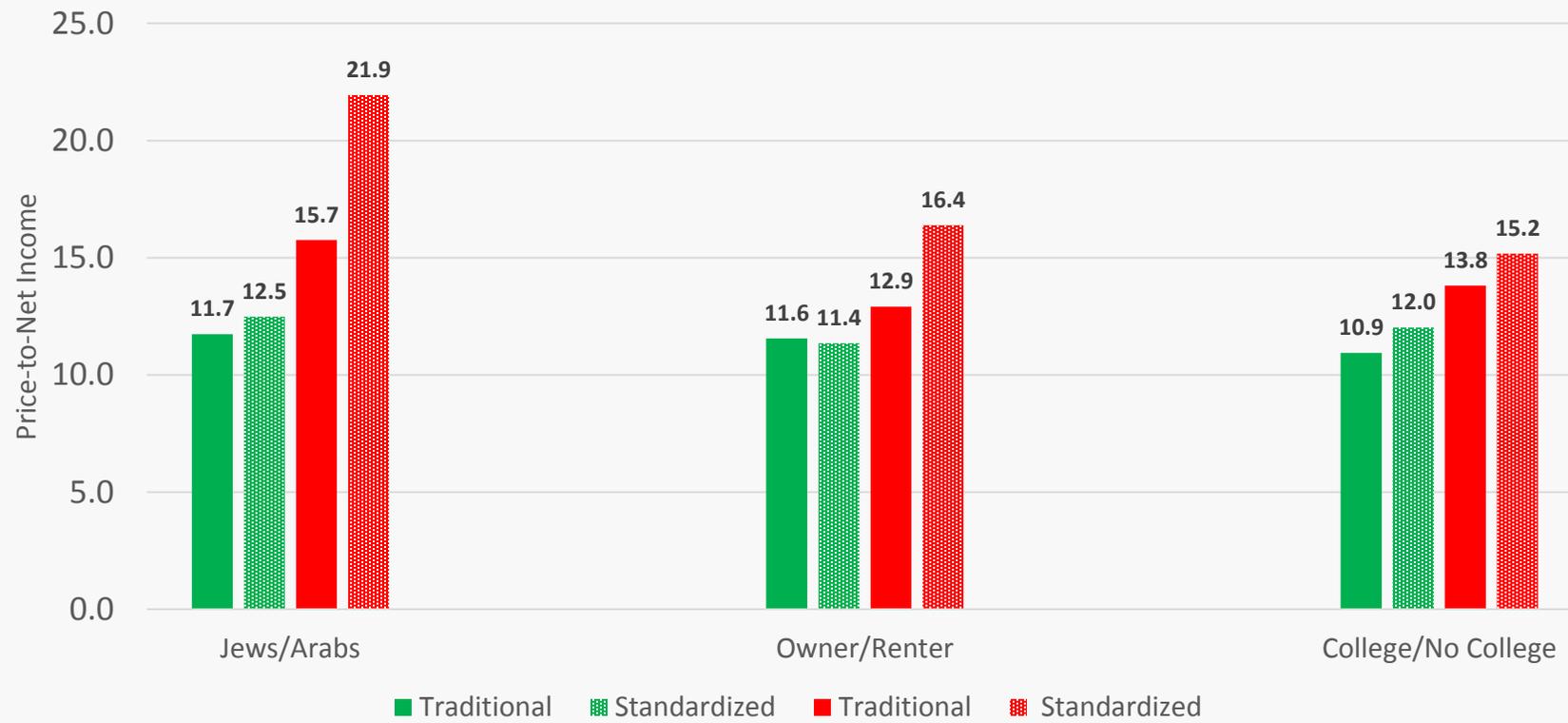
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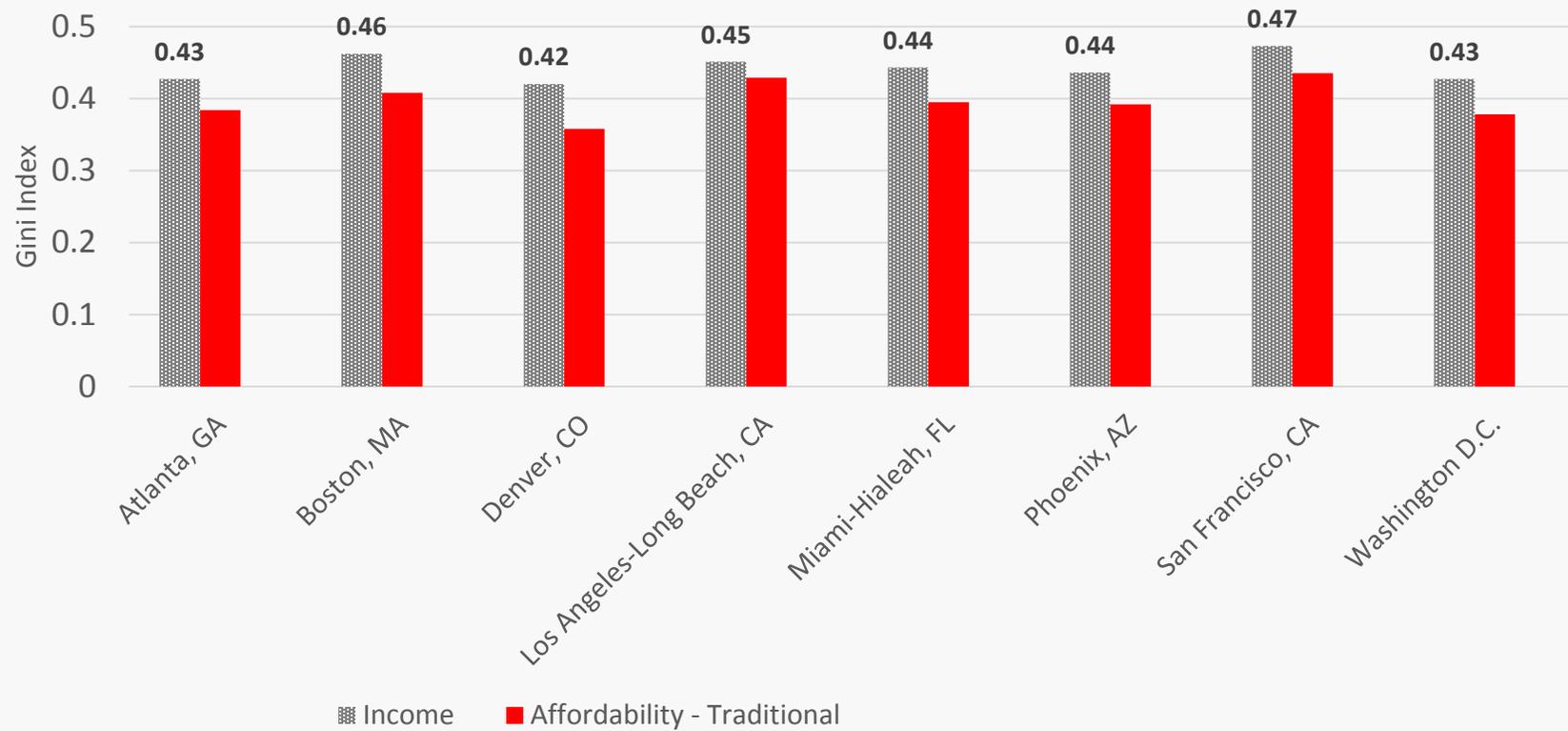


HOUSING AFFORDABILITY: GINI INDEX

- We adapt the Gini index approach to compute affordability inequality based on the “traditional” and “standardized” price-to-net income measures.
- Recall:
 - The Gini index ranges from 0 to 1;
 - A greater Gini value associates with greater inequality.

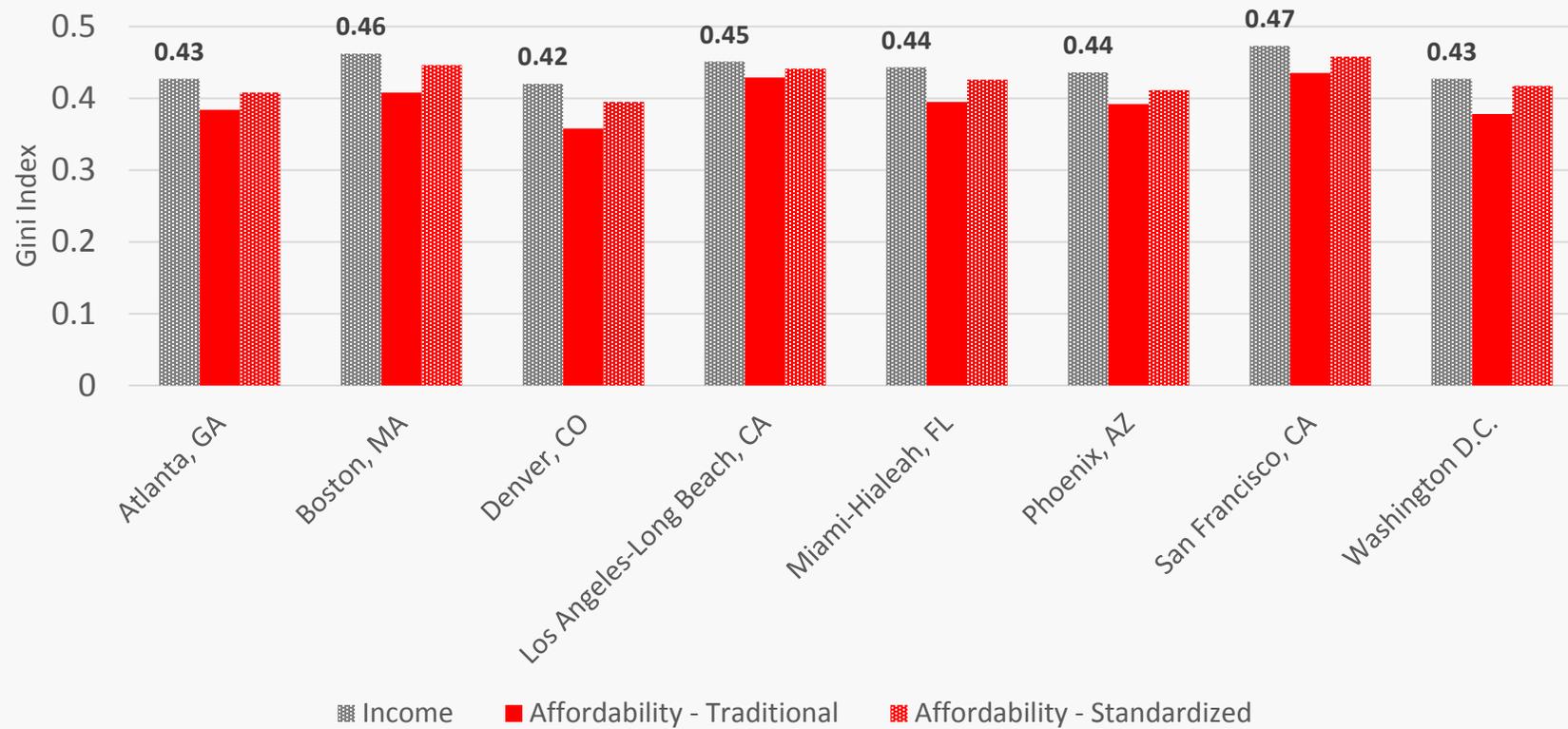
GINI INDEX OUTCOMES

Income and Housing Affordability (Price-to-Annual-Income) Gini Measures for Select Major MSAs



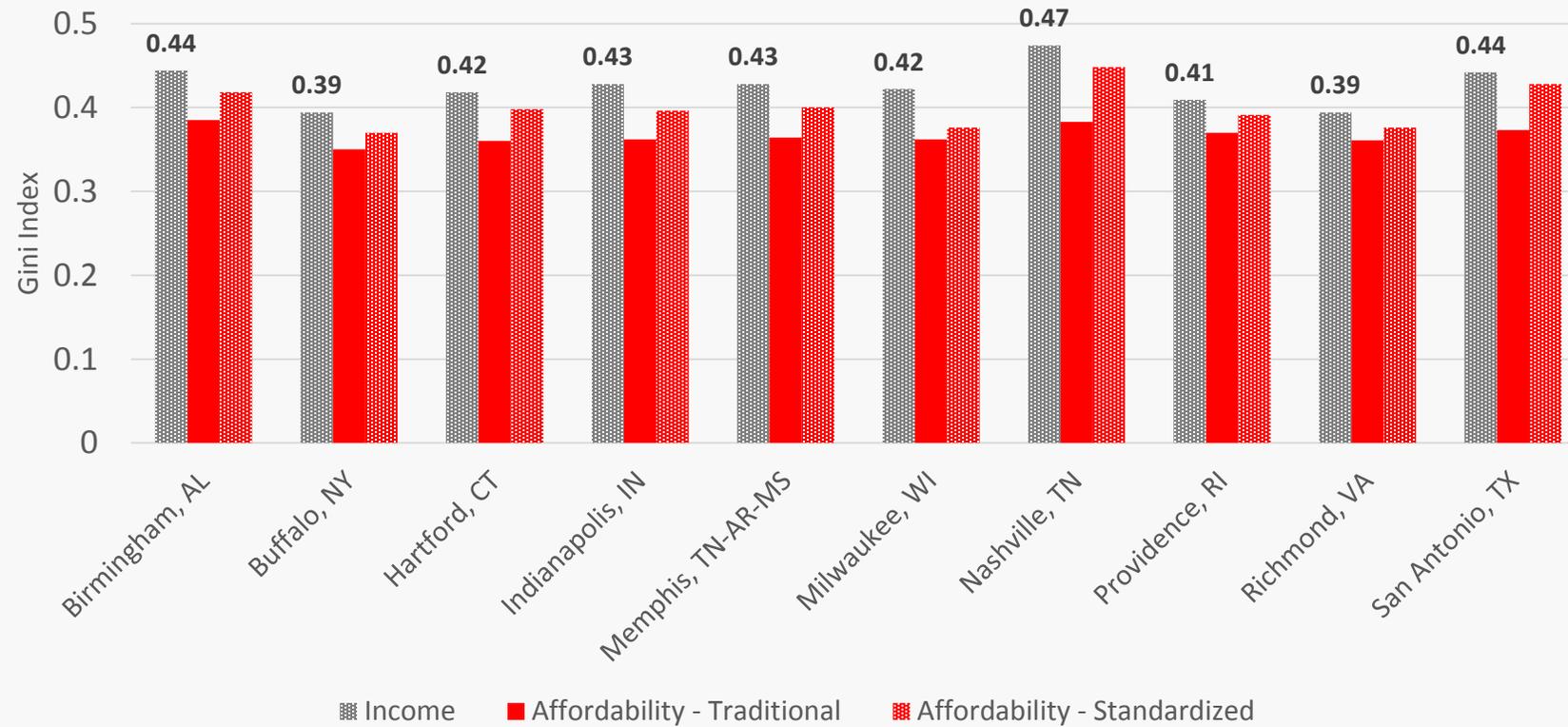
GINI INDEX OUTCOMES

Income and Housing Affordability (Price-to-Annual-Income) Gini Measures for Select Major MSAs



GINI INDEX OUTCOMES

Income and Housing Affordability (Price-to-Annual-Income) Gini Measures for Select Tertiary MSAs



SUMMARY

We compute a new measure of housing affordability that controls for the bias in existing measures as pertain to

- The positive association between household's income and housing consumption;
- The distinct individual preferences for housing consumption.

SUMMARY

The new standardized measure matches each household to the median housing consumption bundle of all households who

- Live in the same geographic location (either in central or peripheral zones of the MSA);
- Possess the same demographic characteristics.

SUMMARY

Among a large cross-section of major and tertiary U.S. MSAs, the new standardized measure reveals

- Substantially lower levels of housing affordability than those computed by simple methods;
- Markedly higher inequality in housing affordability.

SUMMARY

Results for U.S. MSAs also show substantial inequality in housing affordability among variations in the population, including:

- Blacks and whites;
- Owners and renters;
- College and non-college headed households.

SUMMARY

Analysis of data from Israel similarly reveal more pronounced challenges of affordability according to the standardized measure.

Thank you



Conference on Housing Affordability

Housing Affordability: Why Does It Matter, How Should It Be Measured, and Why Is There an Affordability Problem?

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Why is there an Affordability Problem? How Housing is Different

Raphael W. Bostic
University of Southern California
April 6, 2017

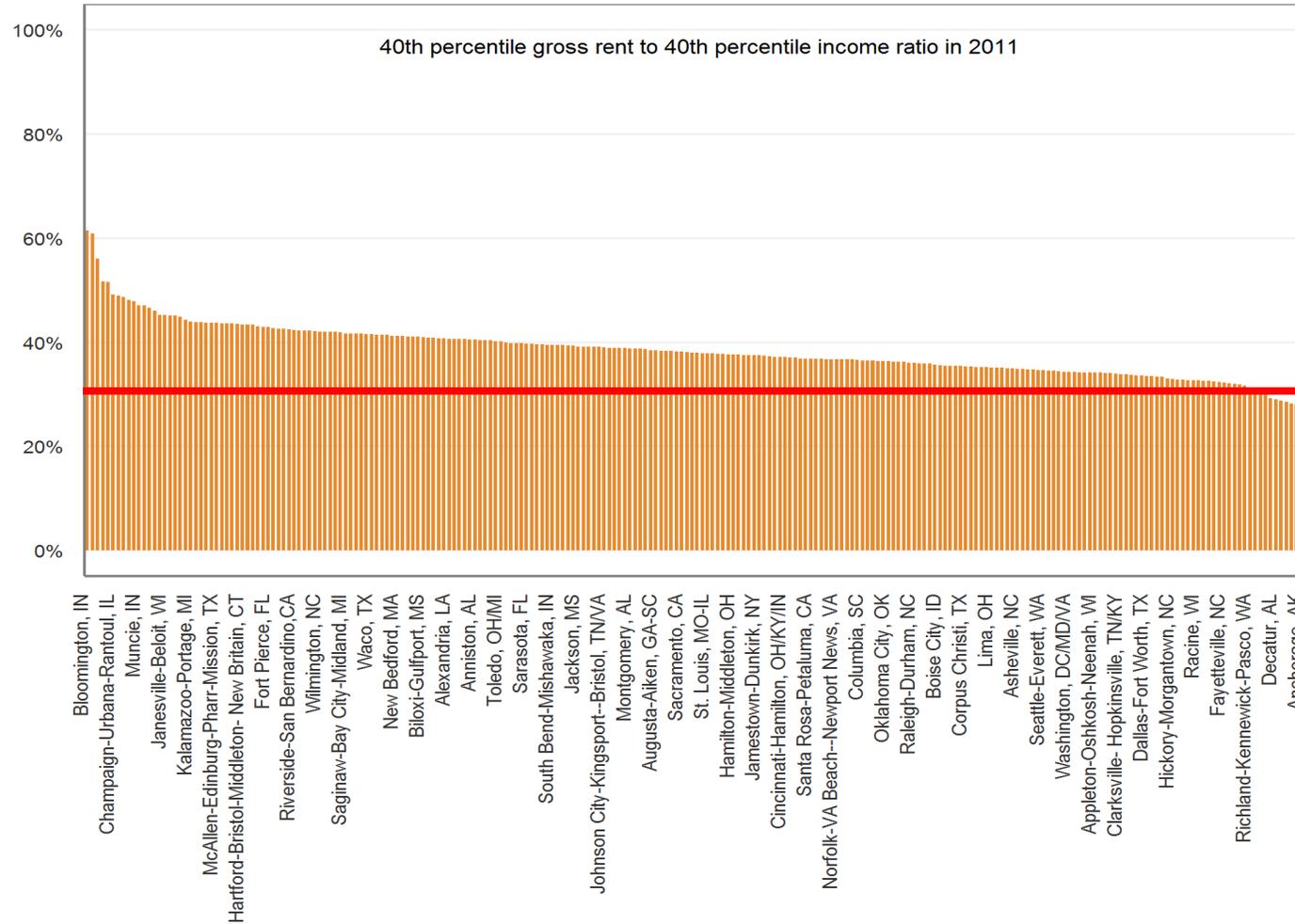
Prepared for a Conference on Housing Affordability
Panel 1: Why Does it Matter and How To Measure It?
American Enterprise Institute
Washington, DC



Overview

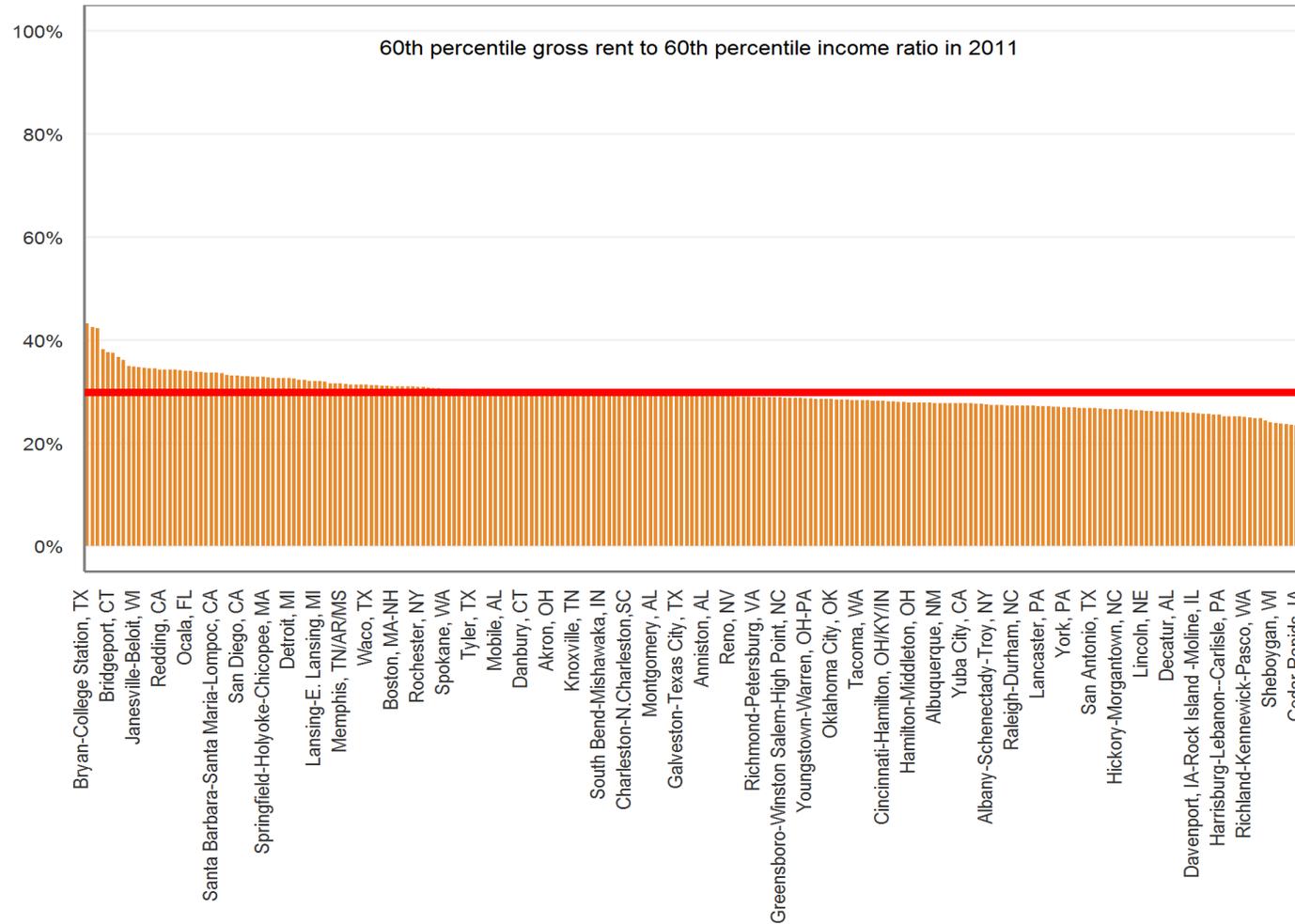
- Introduction – The nature of the problem
- Why are there persistent affordability challenges?
 - Supply is slow to be created
 - Supply is constrained
 - There is a collective action problem in production
 - Renter wages have stagnated
- A word on the new supply

Affordability is a National Problem



Source: Schwartz, et al. (2016)

Affordability is a National Problem

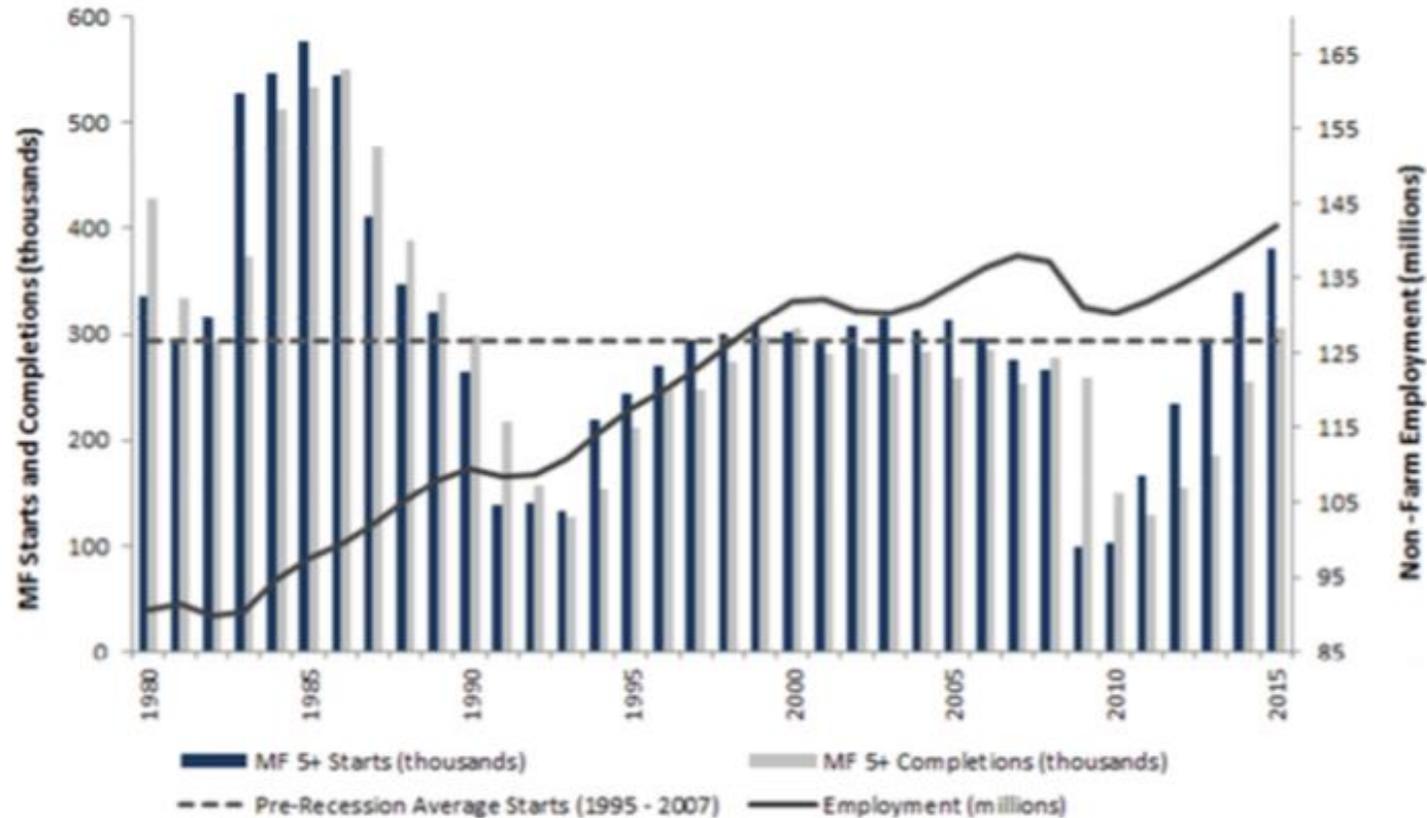


Source: Schwartz, et al. (2016)



Production Has Slowed Nationally

Exhibit 4 - Multifamily Starts and Completions (5+ Units) and Employment



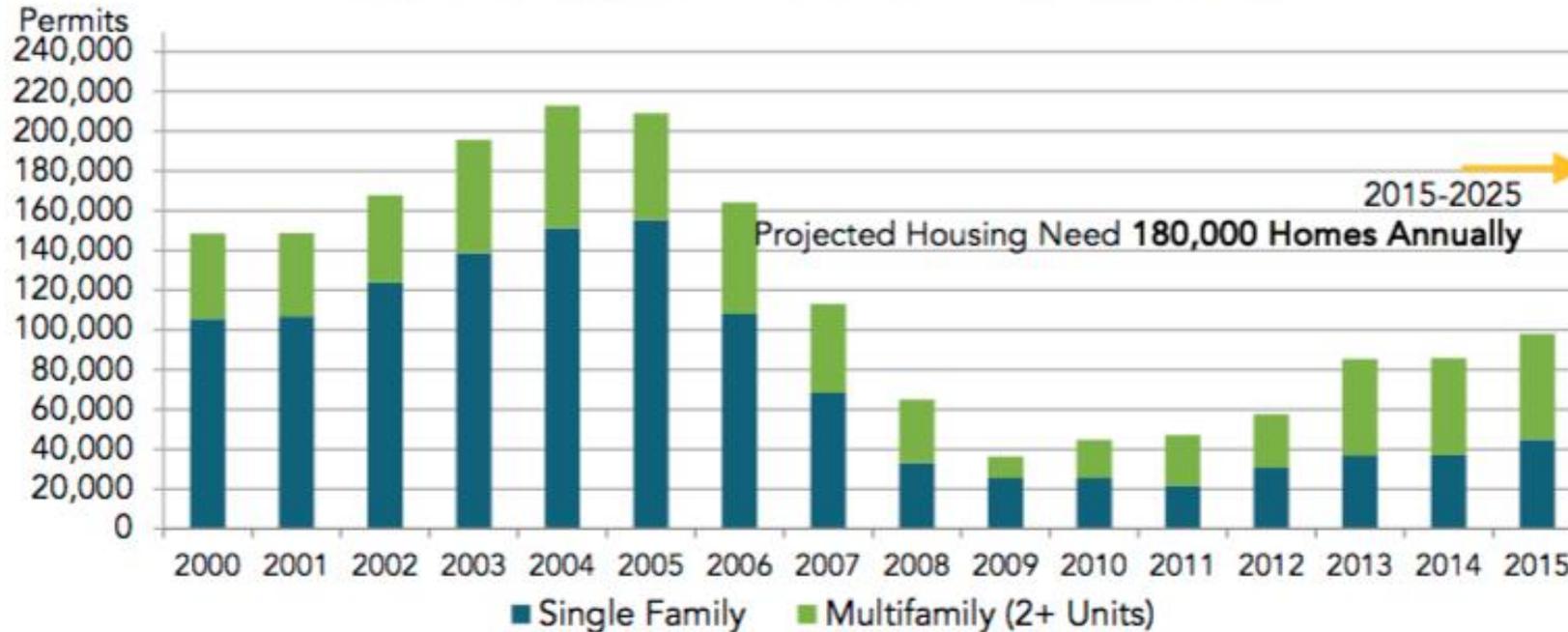
Sources: Freddie Mac, U.S. Census Bureau, Moody's Analytics

Source: Freddie Mac (2016)



California's Production has Lagged

Figure 1.1
Annual Production of Housing Units 2000-2015
Compared to Projected Statewide Need for Additional Homes



Sources: 2000-2015 New construction housing permit data from Construction Industry Research Board. 2015-2025 Projected Annual Need from HCD Analysis of State of California, Department of Finance P-4: State and County Projected Households, Household Population, Group Quarters, and Persons per Household 2010-2030— Based on Baseline 2013 Population Projection Series. Estimate is subject to change until final release. Graphic by HCD. Note: Prior Statewide Housing Plan, "Raising the Roof" (1997-2020), projected California needed to add an average of 220,000 new homes/yr to keep up with projected population increases; updated projected need is less due to lower population increase projections and higher household formation rates.

Source: California Department of Housing and Community Development (2017)



Why Does the Problem Persist?

- Housing takes time to build
 - Supply response will not be instantaneous, so the lag could lead to disequilibrium and cyclicality
 - Cyclicality because by the time the product comes to market, conditions may have changed



Why Does the Problem Persist?

- Housing takes time to build
- Supply response is controlled and often constrained
 - What gets built is not exclusively up to a developer
 - The approvals process defines the allowable amount of production
 - In some instances, the allowable amount is less than the desirable amount
 - NIMBY, down-zoning, extractions from builders
 - No growth and slow growth movements
 - » LUVE (Santa Monica) in November 2016
 - » Measure S (Los Angeles) in March 2017



Why Does the Problem Persist?

- Housing takes time to build
- Supply response is controlled and often constrained
- There is a collective action problem where (affordable) housing production is concerned
 - Decisions to develop are made parcel by parcel and jurisdiction by jurisdiction
 - Impacts are very local, benefits are more broadly based



The Payoff Matrix

	Remain silent	Implicate the other
Remain silent	3, 3	20, 1
Implicate the other	1, 20	5, 5

NOTE: The higher the number, the worse off you are.



The Payoff Matrix: Step 1

	Silent	Implicate
Silent	3, 3	20, 1
Implicate	1, 20	5, 5

- Suppose suspect 2 believes suspect 1 will remain silent
 - Then suspect 2 should implicate

NOTE: The higher the number, the worse off you are.



The Payoff Matrix: Step 2

	Silent	Implicate
Silent	3, 3	20, 1
→ Implicate	1, 20	5, 5

- Suppose suspect 2 believes suspect 1 will implicate
 - Then suspect 2 should implicate

NOTE: The higher the number, the worse off you are.



The Payoff Matrix: Equilibrium

	Silent	Implicate
Silent	3, 3	20, 1
Implicate	1, 20	5, 5

- The equilibrium outcome is for both to implicate the other, and both serve longer terms than they might otherwise have.
 - Both are worse off than if they cooperated
 - More costs incurred than necessary



Prisoners' Dilemma=Affordable Housing

	Build	Block
Build	3, 3	20, 1
Block	1, 20	5, 5

- Regarding affordable housing
 - Build = Silent
 - Block = Implicate
- Everyone blocks
 - Everyone is worse off than if they cooperated
 - More costs incurred than necessary



Why Does the Problem Persist?

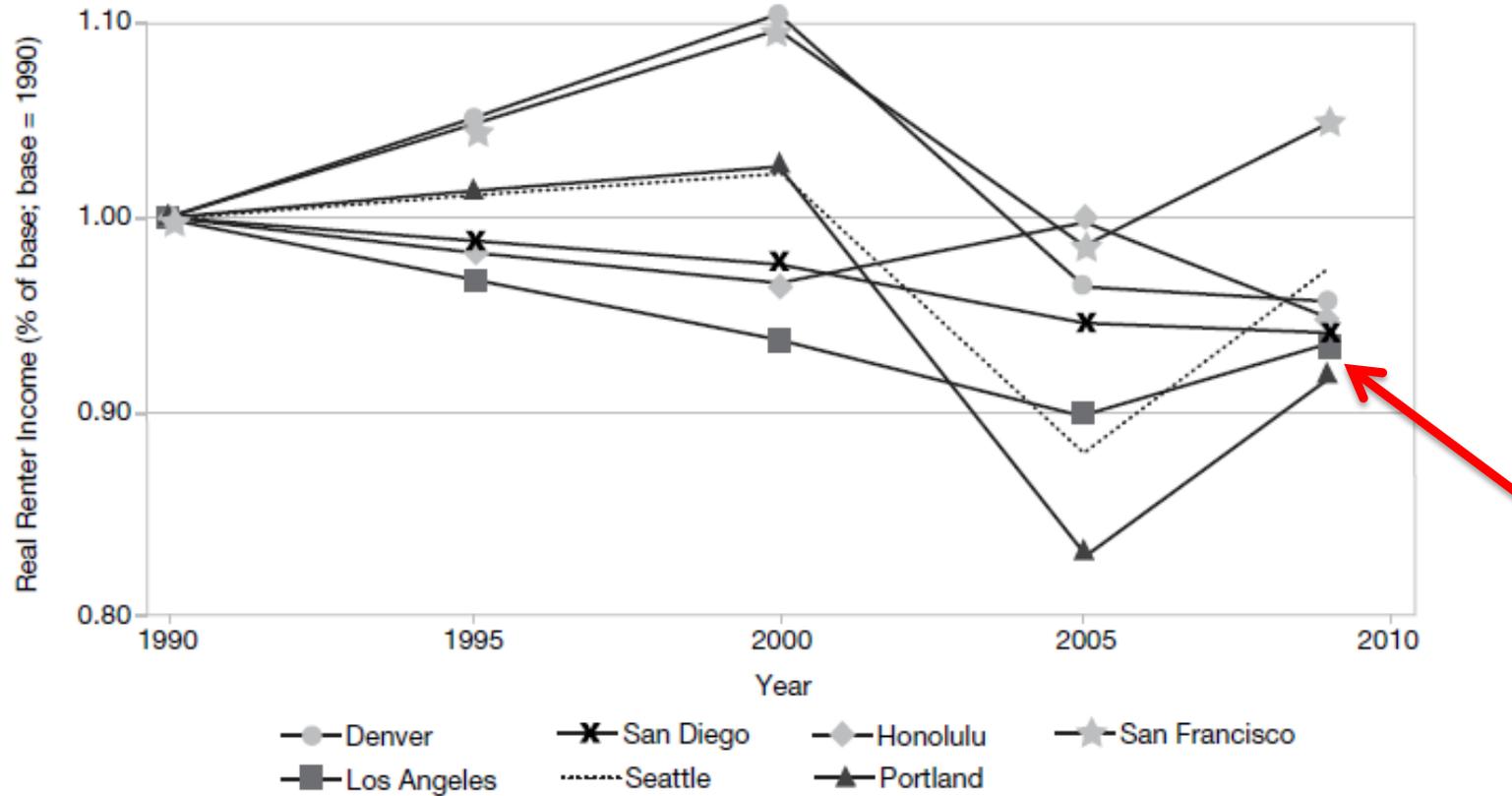
- Housing takes time to build
- Supply response is controlled and often constrained
- There is a collective action problem where (affordable) housing production is concerned
- Renter incomes have stagnated



Renter Incomes Have Fallen

Exhibit 8

West: Real Renter Income by Metropolitan Area



Source: Census Bureau, American Community Survey, Integrated Public Use Microdata Series, 1990, 2000, 2005, and 2009

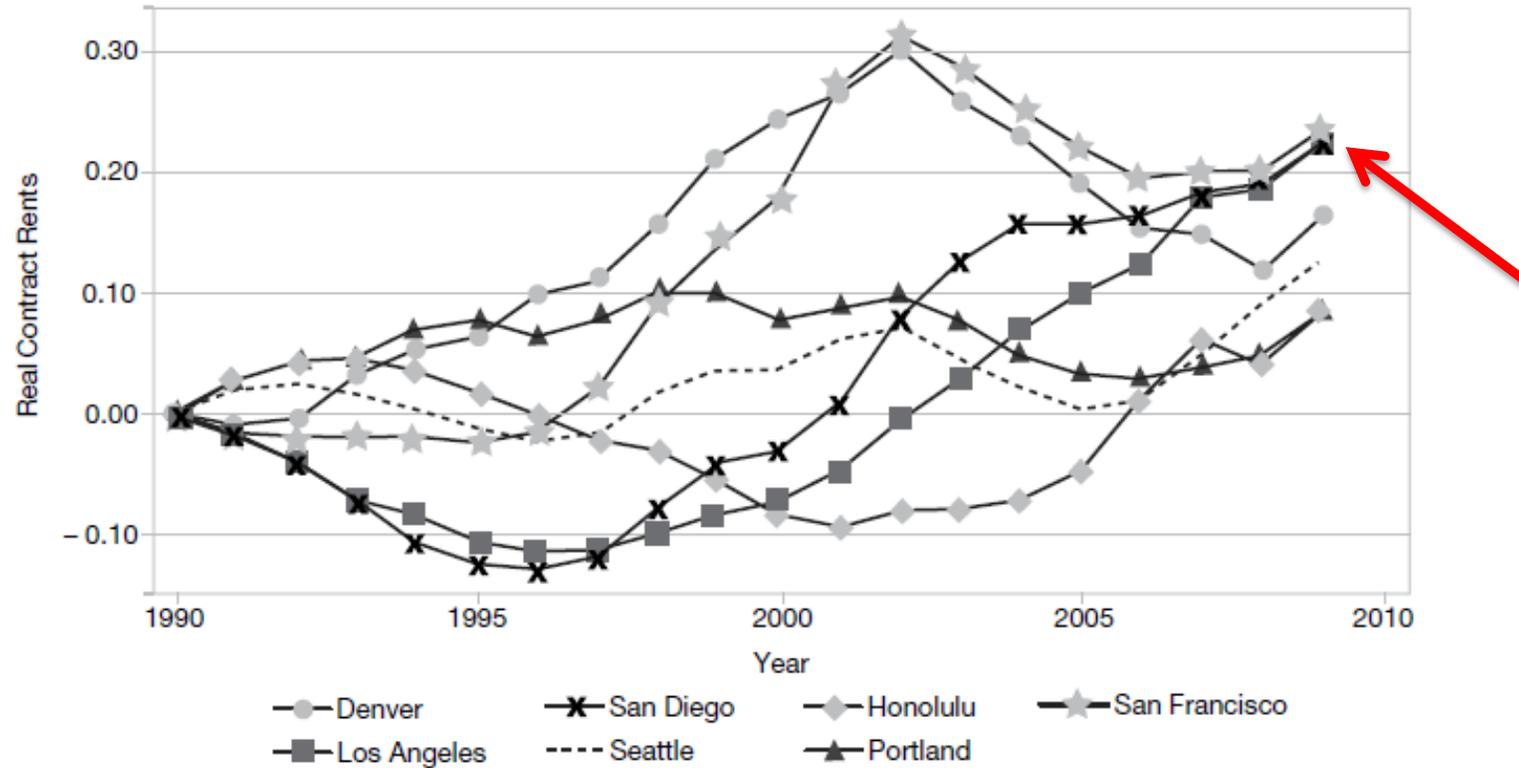
Source: Collinson (2011), *Cityscape Journal*



And Rents Are Sharply Up

Exhibit 13

West: Rents by Metropolitan Area



Source: Consumer Price Index (Rent Index/Less Shelter Index), 1990-2009

Source: Collinson (2011), *Cityscape Journal*



A Word on New Supply

- Does the type of housing in the new supply matter?
 - Economists and builders say no
 - San Francisco has added many units and rents have started to fall
 - Community-based advocates and some policy makers say yes
 - In many markets, the shortfall is great and in places like SF, the drops in rent have not been large



Conference on Housing Affordability

Housing Affordability: Why Does It Matter, How Should It Be Measured, and Why Is There an Affordability Problem?

Thursday and Friday, April 6–7, 2017 | American Enterprise Institute | Washington, DC



Conference on Housing Affordability

Break

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