Impacts of the Widening Divide:
Los Angeles at the Forefront of the Rent Burden Crisis

Rosalie Ray
Paul Ong
Silvia Jimenez

Center for the Study of Inequality
UCLA Luskin School of Public Affairs

Revised September 2014*

Abstract

Recent media coverage has focused on growing rent burdens as an important manifestation of widening economic inequality. What has been missing from this coverage is that high and increasing rent burdens represent a long-standing problem. In this research we track and analyze changes in Los Angeles income and rent levels over the last four decades and compare them with national trends. We find that rent burdens have been severe for low-income renters since the 1970s, that burdens have also increased substantially for the middle class over the period studied, and that Los Angeles consistently exceeds the nation in both the share of renters burdened and the severity of the burden. Moreover, we find that neither tight housing market conditions nor housing quality are sufficient to explain the extent to which housing costs have outpaced income growth over the last four decades.

We thank the Howard and Irene Levine Program in Housing and Social Responsibility at the UCLA Ziman Center for Real Estate and the Haynes Foundation for their generous funding. The authors alone are responsible for the content. We are grateful to Batul Joffrey for her research assistance and to Adam Dorr and Terra Bennett for reviewing this paper. This paper complements parallel research on income inequality in Los Angeles funded by the Haynes Foundation. The Haynes project does not cover the topic of housing.

* Income figures in the text on page 7 of the July 2014 version have been revised as well as rates on page 12. Graphs remain unchanged. The revisions are due to a technical problem with the data spreadsheet that caused a misalignment of the data by year. The revisions in no way impact the conclusions of the research.

Introduction

"In many cities, rent is rising out reach of middle class" (Dewan, 2014, 1) and "The high cost of rent in Los Angeles is hurting the rest of the city's economy" (Meyerson, 2014, 1) are some of the recent headlines highlighting the growing rent burden problem in the nation and in Los Angeles specifically. Los Angeles is now the most unaffordable housing market in the country (JCHS, 2014), although a recent Los Angeles Times article discusses the lack of room for further rent increases due to declining renter incomes (Logan, 2014a).These and other reports focus on the post-Great Recession time period, but the problem has taken much longer to materialize.

Over the last quarter century the gap between the "haves" and "have nots" in the United States has grown secularly (long-term temporal changes beyond cyclical fluctuations), driven by domestic and global forces, and only partially offset by anti-poverty policies (Stone, 2012; Bee, 1012; Wolff, Ajit, and Masterson, 2012; Domhoff, 2013).Income disparity in the Los Angeles metropolitan area has surpassed that of the nation, driven by an expanding population at the bottom of the income distribution as well as by a small number of high-income in-migrants.[1]The magnitude and nature of this phenomenon before the turn of the century is well documented for Los Angeles (Ong, et al., 1989; Bobo, et al., 2000), and more recent data from the U.S. Bureau of the Census show a continuation.[2]

The widening divide has driven a parallel growth in consumption inequality (Aguiar and Bils, 2011), including in the housing market, at a time of unprecedented demand for rental housing (Harvard Joint Center for Housing Studies, 2013). In particular, renters have experienced a disproportionate growth in their housing cost burden—the share of income spent to pay for housing (Quigley and Raphael, 2004).High burdens leave renters less disposable income to cover their remaining living expenses. They have fewer opportunities to save, including saving for home purchases.[3] The increasing constraint may contribute to the growing inequality in wealth, particularly along racial lines (Oliver and Shapiro, 2006; Kochhar, Taylor and Fry, 2011; Shapiro, Meschede and Osoro, 2013).

As with income inequality, Los Angeles exceeds the nation in housing market pressures as well. Gyourko, Mayer, and Sinai (2006) identified Los Angeles as a "superstar city" with inelastic housing supply and a steady influx of high-income migrants who bid up housing prices. Los Angeles housing prices have grown about four times faster than incomes since 2000 (LA Department of City Planning, 2013). Increases in the median housing price prevent households from making the transition from renter to owner, which increases demand in the rental market, driving rents up further.

This research provides insights on housing inequality by highlighting the experience of renters and their housing cost burden from 1970 to 2011.We focus in particular on the long-term developments in the region and make an initial attempt to identify, or at least rule out, potential mechanisms by which the rent burden is growing. Growth in renter burden may be driven by changes in both housing cost and income. Understanding the root cause of increased renter burden, as one of declining income or one of housing will provide local knowledge to help inform policy, planning, and action at the local and regional level. Detailed knowledge can help mobilize stakeholders, inform decision-making, and formulate sound housing and economic development strategies that benefit both the region as a whole and those populations most at risk.

The research has three major parts. Part I examines changes in the demographic and socioeconomic composition of renters relative to owners. Is there a widening economic divide between these two classes of households? The report finds that the income gap between renters and owners widened over time. Further, rentership rates grew fastest within the bottom 20% of income earners. Part II investigates changes in housing burden on renters. We analyze the share of income going to shelter over time, first for the population as a whole and then by quintiles. Severe housing burden among poor renters existed since 1970, but during the period of increasing inequality the burden grew even more severe. The proportion of all renters who experience a severe burden has also grown. Part III evaluates possible causes of rising rents, including both market forces and changing housing quality. Vacancy rates are roughly the same and renters are paying more for the same quality housing, suggesting that neither market forces nor changing housing quality explains the increasing rents.

Data and Methods

This analysis employs public-use micro samples (PUMSs) from the 1970, 1980, 1990 and 2000 decennial censuses, and from the 2009-2011 3-year American Community Survey (ACS). From 1970 to 2000, the Bureau of the Census conducted decennial census surveys and "long-form" surveys simultaneously, the latter of which collected detailed housing, demographic and socioeconomic data. The long-form survey was discontinued after 2000 and has since been replaced by the ACS, a continuous survey that collects similar housing, demographic and socioeconomic information.

The size of the PUMS ranges from 3% to 5% of all households and individuals in Los Angeles County, varying from year to year. The data for households include information on tenure (renters and owners), household income, monthly housing costs, size of housing units (rooms and bedrooms), and other characteristics (size and composition of households, building size and age, etc.). We combined these household data with information on heads of households to yield a dataset that supports investigation of how demographic and socioeconomic characteristics relate to rentership and monthly housing costs.

All dollar values were adjusted to 2012 using CPIU-RS. Vacant units and group quarters were excluded. Income from household members under 16 were removed from 1970 data to ensure consistency with later years. For the quintile analysis in Part II, we grouped the middle three quintiles together as the middle 60%.

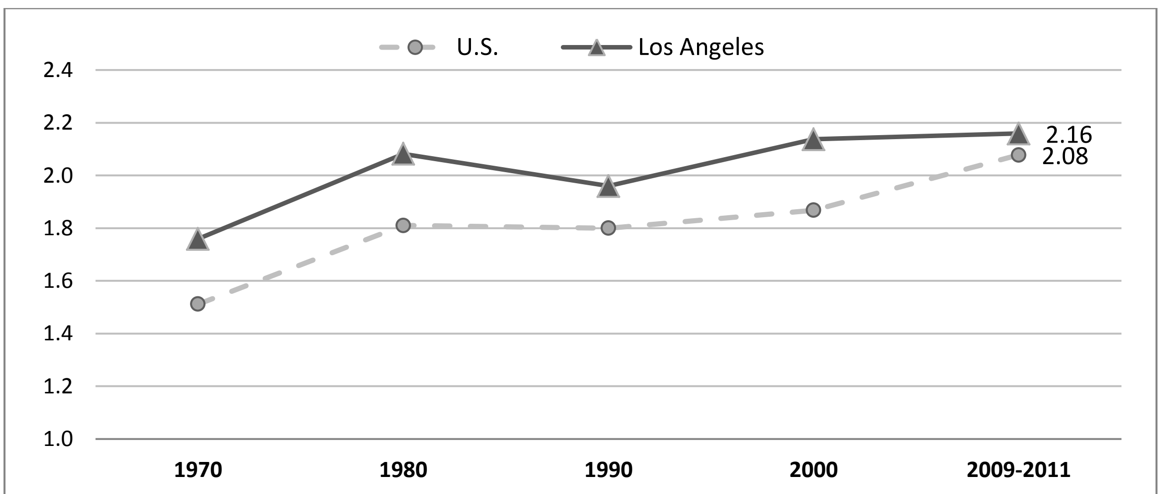
Rent burden is defined as the percent of income devoted to the payment of gross rent. Gross rent includes utilities as well as the rent payment, referred to as cash rent by the Census. Renters who did not pay cash rent were assumed to be unburdened regardless of income. Those who did not receive any income or had negative income amounts and still paid rent were assumed to be severely burdened. Burden was top-coded at 101% of income.

For this research, renter households that contribute more than 30% of their income towards rent are considered rent-burdened. This definition varies slightly from other sources, such as the Bureau of the Census which uses a measure of 35% or greater. Some research on the topic categorizes rent burden by severity. In the *State of the Nation's Housing Needs* report, for example, the Joint Center for Housing Studies at Harvard University separates burden into *Moderate* (when 30% to 50% of income is spent on rent) and *Severe* (when over 50% of income is spent on rent). But while the specific measures used may vary, there is consensus among housing studies that the nation's rent burden has increased considerably in the last decade.

Part I: The Widening Divide between Owners and Renters

In both the U.S. and Los Angeles, the median income of owners is more than twice that of renters. In the U.S., the large gap is a new phenomenon, born of a fairly steady widening since 1970. In Los Angeles, on the other hand, owners have made twice as much as renters off-and-on since 1980 (see Figure 1).

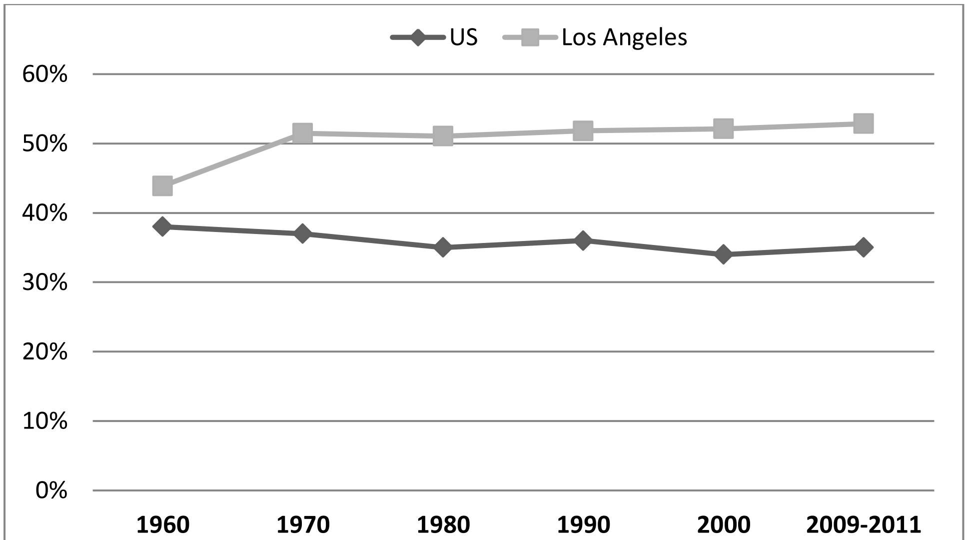
Figure 1.Owner-Renter Median Income Ratio



Source: U.S. Census and ACS PUMS; tabulated by authors.

In part, the temporal differences in the widening divide are the result of different tenure patterns in Los Angeles versus the U.S. Los Angeles has been a majority renter city since 1970, while the U.S. rentership rate has fluctuated around 35% (see Figure 2). Los Angeles is now the metro area with the highest share of renters in the country, at 52% (Joint Center for Housing Studies, 2013).

Figure 2.Rentership Rates



Source: U.S. Census and ACS PUMS; tabulated by authors.

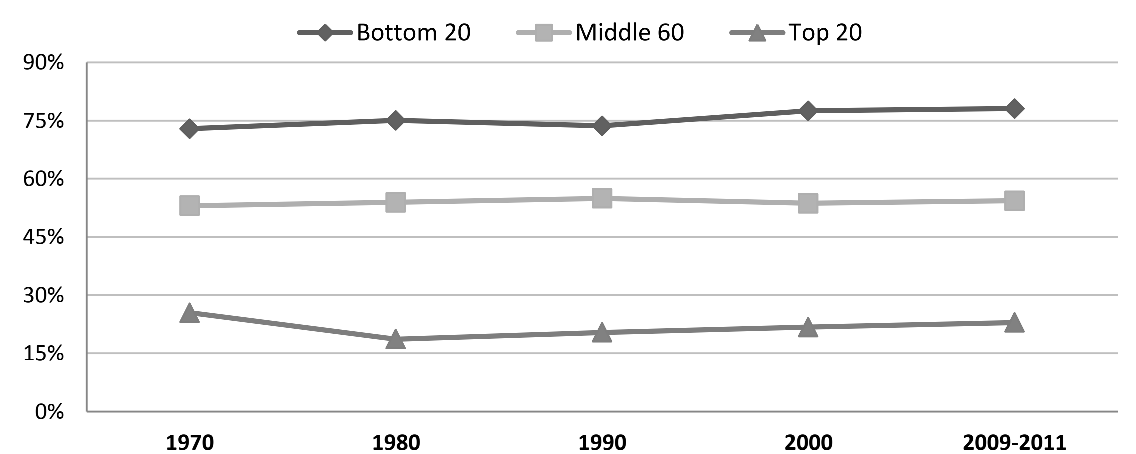
In addition, the income composition of renters has differed between the two areas. Over time, those in the bottom 20% of the income distribution have become more likely to rent in the U.S. while those above them have become less likely. In 1970, even people in the bottom 20% of the national income distribution were more likely to be homeowners than renters. Today, roughly 60% of households in the bottom quintile rent, while fewer than 15% of the top quintile do so (see Figure 3). Much of what the media has picked up on is a recent trend among the middle three quintiles towards renting, reversing the longer-term trend towards homeownership. Within our decadal data set, the trend is barely noticeable, but a recent Census report confirms a steady rise in rentership in the last few years (Flanagan and Schwartz, 2013).

Figure 3.Renter Rates by Income Quintile, US

Source: U.S. Census and ACS PUMS; tabulated by authors.

Los Angeles, on the other hand, has seen a rising rentership rate overall, while the rentership rates by quintile have remained fairly stable. Homeownership peaked among high income earners in 1980 and has since fallen slightly, while Los Angeles earners in the bottom quintile experienced a modest downturn in rentership during the 1980s.For the most part, however, rates within quintiles have remained stable.

Figure 4.Renter Rates by Income Quintile, Los Angeles

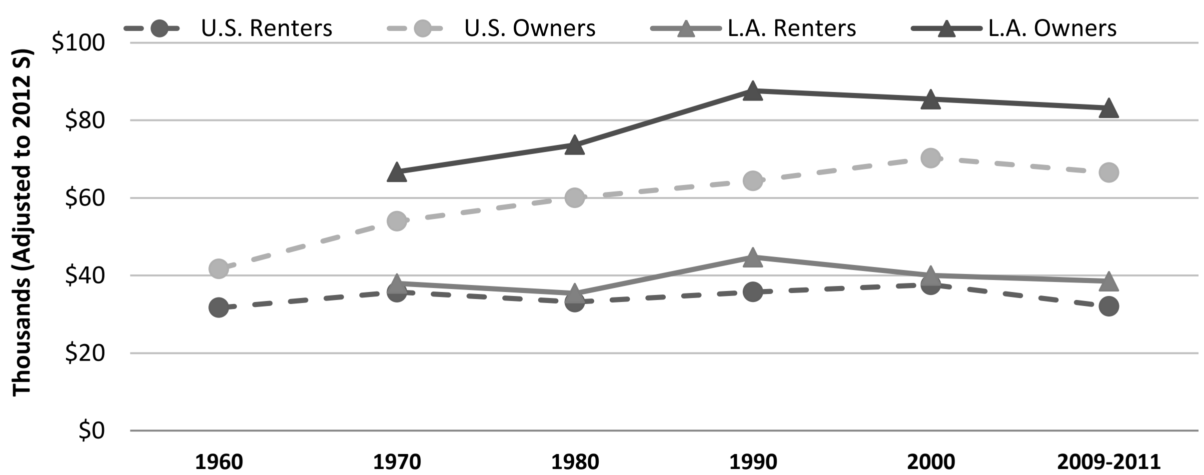


Source: U.S. Census and ACS PUMS; tabulated by authors; data not available for 1960 for LA County.

While the nature of the widening divide in the U.S. can be in the differing trends in rentership by quintile, the ways in which the Los Angeles housing market differs from the nation's overall pattern can be seen in its median income trends (See Figure 5).Overall, owner incomes rose 25% since 1970 in Los Angeles, and 23% in the U.S. With the increasing tendency of bottom quintile households to be renters in the U.S., median renter incomes fell 10% between 1970 and 2011, from $36,000 to $32,000, while Los Angeles renter incomes gained 2%. More recently, however, median incomes for both owners and renters in the city declined between 1990 and 2011, stabilizing the income gap somewhat.

Income stagnation is not the way one would ideally like to close a gap. It becomes even more problematic when one looks at the diverging trends between rent and renter incomes, the subject of the next part.

Figure 5. Median Income by Tenure, US and LA



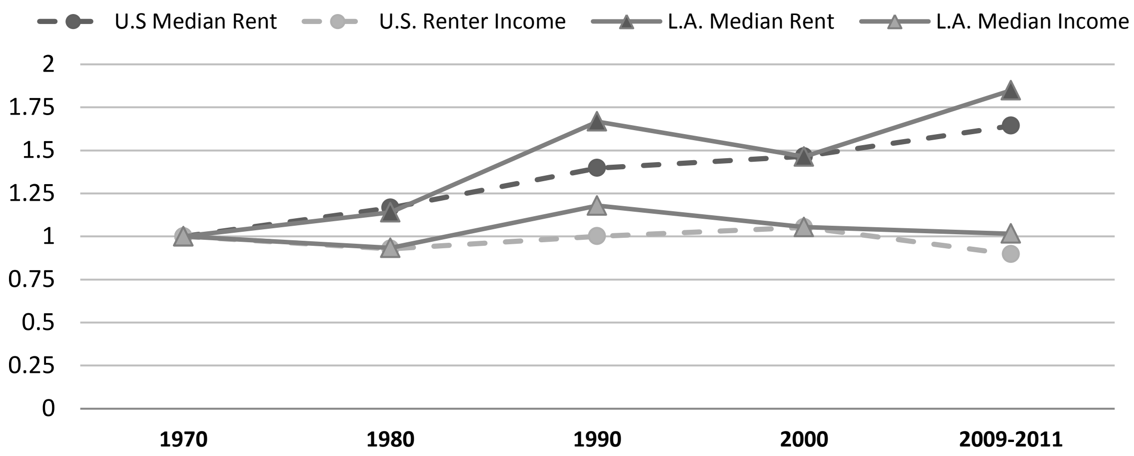
Source: U.S. Census and ACS PUMS; tabulated by authors; data not available for 1960 for LA County.

Part II: The Widening Divide Between Rent and Renter Incomes

Rent burden is the ratio of rent to income and is generally expressed as the percentage of income devoted to rent. It rises when rents rise relative to incomes. In the face of declining median incomes in Los Angeles, rents too would have had to stagnate or fall for the rent burden to remain steady. Instead, as can be seen in Figure 6, rents have risen faster in Los Angeles than in the nation as a whole.

In order to show both trends on the same graph, Figure 6 shows the growth of income and of rent in the U.S. and Los Angeles relative to their level in 1970. Thus, in 1970, all equal 1while in 2009-2011, Los Angeles rent is more than 175% that of 1970 Los Angeles rent. What is clear from the chart is that the gap between rent and renter incomes has widening, and that rent growth in Los Angeles has outpaced growth elsewhere in the U.S. despite declining incomes.

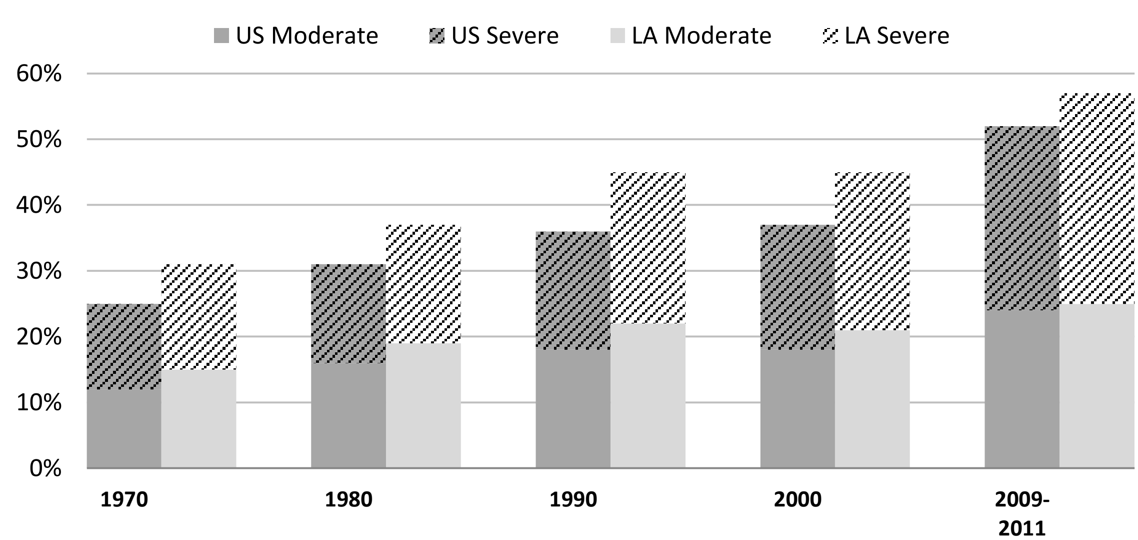
Figure 6. Change in Median Income and Rent, US and LA



Source: U.S. Census and ACS PUMS; tabulated by authors.

As expected, then, the share of renters experiencing moderate (30-50% of income) and severe (50+% of income) rent burden in Los Angeles has consistently exceeded the rate of the nation as a whole. As of 2013, Los Angeles also had the highest median rent burden in the nation, at 47% (Dewan, 2014). Not only were a greater share of renters burdened, but the size of their burden was also greater as shown in Figure 7.

Figure 7.Rent Burden, US and Los Angeles, 1970-2011



Source: U.S. Census and ACS PUMS; tabulated by authors.

Given widening inequality overall, it is important to understand how equitably the growing rent burden has been shared among renters over time. To explore this, we grouped renters by their position in the overall income distribution. All references to income distribution in this section are for overall incomes. When looking by quintiles, we find that rent burden has long been a problem for those at the bottom end of the income distribution.

Of particular concern are renters in the lowest quintile, or bottom 20%, of the income distribution. In 1970, 54% of these Los Angeles renters shouldered a severe rent burden (i.e. were devoting half or more of their income to housing), and 85% of them bore a moderate rent burden (i.e. were paying 30 to 50% of their income).Although national figures are less drastic, 46% of the lowest quintile renters were nonetheless severely burdened and more than half were moderately burdened. These figures are summarized in Table 1 below.

Table 1. 1970 Rent Burden Rates

		Bottom 20%	**Middle 60%**	**Top 20%**
U.S.	30-50% of Income	24.2%	8.5%	0.2%
	> 50% of Income	46.2%	0.9%	0%
L.A	30-50% of Income	31.2%	9.8%	0.2%
	> 50% of Income	53.6%	0.8%	0%

Source: U.S. Census and ACS PUMS; tabulated by authors.

Not surprisingly, for renters with higher incomes rent burden was less onerous, with roughly 10% of middle-income renters moderately burdened in both the U.S. and Los Angeles, and virtually none in the top quintile of earners burdened. The reason why this is the case is clearly evident in the rent-to-income ratio, which differs starkly between the top and bottom of the U.S. income distribution: rent for those in the top quintile was roughly twice that of bottom quintile, but incomes of the top quintile were roughly 10 times larger.

Table 2 below breaks down the income and rent growth seen in Figure 6by income quintiles. During the period of analysis from 1970 to 2011 the rent burden situation deteriorated for bottom quintile renters, particularly in Los Angeles, and the city also witnessed substantial rent increases across all quintiles. Both the U.S. and Los Angeles had a U-shaped pattern of rent increases, with larger increases at the top and bottom of the distribution than in the middle. Renter income growth for the nation followed the same pattern as rental price increases. However, Los Angeles did not follow that trend. Los Angeles income growth was lowest at the bottom of the income distribution and highest at the top.

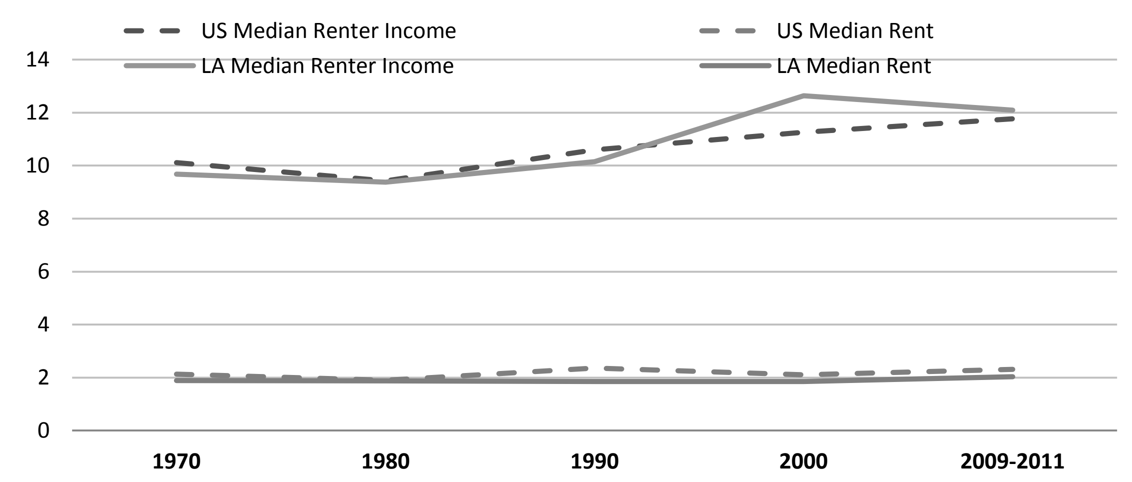
Table 2. Rent and Renter Income Growth by Quintiles

		Bottom 20%	Middle 60%	Top 20%
U.S.	Median Rent	80%	76%	96%
	Median Renter Income	19%	6%	45%
L.A	Median Rent	93%	90%	109%
	Median Renter Income	9%	11%	36%

Source: U.S. Census and ACS PUMS; tabulated by authors.

In both the U.S. and Los Angeles the gap between rents paid by the top and bottom quintiles has stayed roughly constant, but the gap between top and bottom quintile renter incomes has increased (See Figure 8). Los Angeles's income gap peaked in 2000 well above the U.S., while the U.S. income gap continues to rise. In 2000, the incomes of Los Angeles renters in the top quintile were 12.6 times that of bottom quintile renters. Top quintile incomes fell to 12 times that of the bottom quintile in 2009-2011, only slightly larger than the comparable U.S. gap.

Figure 8. Change in Rent and Income Levels



Source: U.S. Census and ACS PUMS; tabulated by authors.

Rent burden in Los Angeles has increased to stunning proportions. By 2009-2011, more than three-quarters of the lowest-income Los Angeles renters were severely burdened (See Table 3). Further, more than nine in ten were burdened, though not "severely." Middle income renters are being squeezed by similar trends. Throughout the U.S., steep rent increases and small income increases burdened more than a third of middle-income renters by 2009-2011.In Los Angeles, roughly half of middle income renters experienced rent burden. The pattern diverges for high-income renters. Despite the doubling of rent for top income earners in Los Angeles, a slightly smaller share of top income renters are burdened in Los Angeles compared to the U.S.

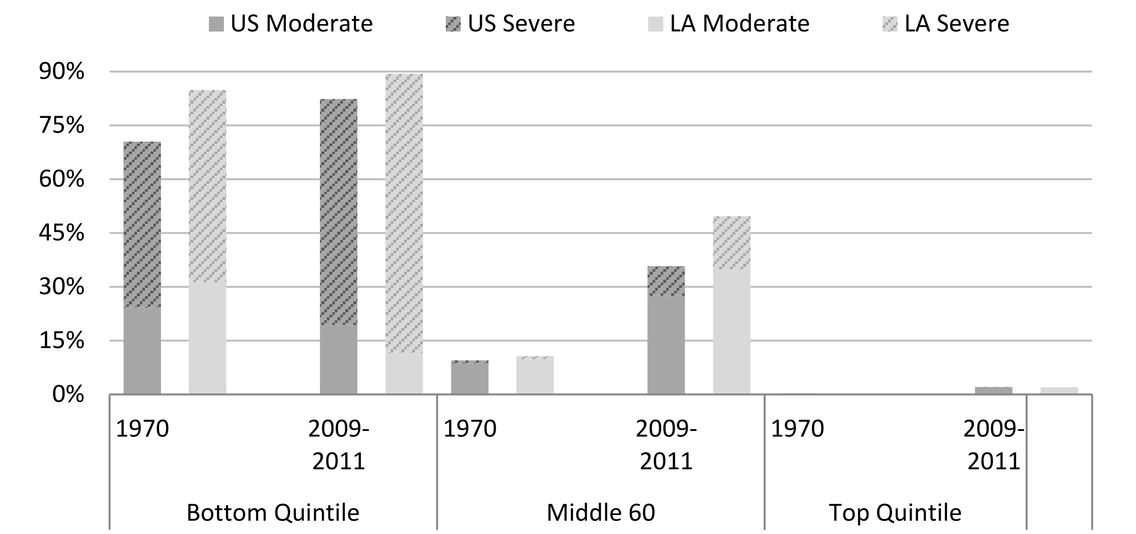
Table 3. 2009-2011 Rent Burden Rates

		Bottom 20%	Middle 60%	Top 20%
U.S.	30-50% of Income	19.2%	27.4%	2.0%
	> 50% of Income	63.1%	8.3%	0%
L.A	30-50% of Income	11.5%	34.8%	1.9%
	> 50% of Income	77.8%	14.8%	0%

Source: U.S. Census and ACS PUMS; tabulated by authors.

As Figure 9 shows, there are two major trends in rent burdens over the last 40 years, and both have played out more strongly in Los Angeles than in the nation as a whole. First, burdens among the bottom quintile have gone from bad to worse. It is worth noting that as early as 1983, it was possible to publish books called *America's Housing Crisis* about the nation's inability to house its poorest citizens (Hartman, 1983). Since then, the rent burden for poor households has only worsened. Second, rent burden has expanded to become a problem faced by the middle class as well. Most renters in these middle income quintiles still pay less than half their income in rent. However, 50% of mid-range renters in Los Angeles experience some sort of burden, as do a third of U.S. middle class renters overall.

Figure 9. Rent Burden by Quintiles



Source: U.S. Census and ACS PUMS; tabulated by authors.

Part III: Exploration of Potential Causes in Los Angeles

The increase in burden over time has largely been the result of increasing rents rather than decreasing incomes, a finding confirmed by Quigley and Raphael (2004). Incomes increased across all quintiles from 1970 to 2009-2011 in Los Angeles, but rents increased far faster.[4] As a result, severe rent burdens have become a problem that affects not only the bottom quintile, which has been severely burdened for over 40 years, but increasingly the middle class as well.

There are a number of possible explanations for the increasing rents. The rental market could have tightened as demand exceeded supply. Additionally, publicly mandated and/or market demanded quality increases could have translated in higher rents for a better product. In either case, the increasing rents would likely be unrelated to increasing inequality. However, neither appears to be the case in Los Angeles.

The housing market was only slightly looser in Los Angeles in 1970 than in 2009-2011, according to the vacancy rates. The market had a 5.2% vacancy rate in 1970 and a 5.1% rate in 2009-2011. The market was at its tightest in 2000 (3.3%) and loosest a decade earlier, at 6%. It is possible to see the effects of the recession in recent years in the form of an increased vacancy rate, climbing from 3.6% in 2005 to over 5% in 2009-2011.

In Los Angeles, increasing rent is also not the result of improvement in quality and size of the housing stock offered. Quigley and Raphael (2004) find some evidence for this hypothesis in national data, though it does not explain all of the U.S. increase. To explore the possibility of the housing stock explanation for Los Angeles, we regressed the number of bedrooms, building age, housing type (single-family, duplex, mobile, multi-family), presence of kitchen facilities, and year on the log of gross rent using the 1970 and 2009-2011 data. (See Appendix A for details.) Using the log provides estimates of the percent change in gross rent expected over time. For the U.S., controlling for such quality improvements accounts for just under half of the percent increase in rent over time. In Los Angeles, on the other hand, the coefficient on the year variable, the expected percent increase between 1970 and 2009-2011, actually *increases* if quality factors are added in, signaling that renters are getting less for more money over time.

Neither tight markets nor improved quality holds in Los Angeles. Instead, the problem appears to be two-fold. Los Angeles has a lower median household income than comparable cities such as New York or San Francisco but only a small difference in median rents. At the same time, Los Angeles has relatively fewer publicly subsidized units and weaker rent control. This is particularly true in comparison to New York. The Los Angeles section 8 voucher program waiting list has been closed for almost a decade. Affordable housing production and preservation also slowed with the decline in state and federal funding. According to the Los Angeles Department of City Planning Housing Needs Assessment, the city needs to produce roughly 5,300 units per year that are affordable to moderate-income households or below (Los Angeles Department of City Planning, 2013).Los Angeles has instead averaged roughly 1,100 units per year since 2006.Since 2000, 143,000 rental units that had been affordable to those making less than $44,000 a year became unaffordable.

At the same time, high-end apartment construction is booming. A recent Los Angeles Times article noted that 17,000 new apartment and condominium units were permitted in 2013, and the permit rate for the first quarter of 2014 was up 30% from last year (Logan, 2014b). Nearly all of the building is aimed at top renters and is unlikely to lessen the steep rent increases and high rent burdens faced by low and middle income renters.

Additionally, the condominium market may convert older, more affordable units to condos. This strategy, also aimed at high-income earners, further reduces affordable housing stock. The Economic Roundtable recognized the growing pressure on low-income renters and recommended that the Los Angeles Housing Department (now the Housing and Community Investment Department) halt condo conversions in community plan areas with vacancy rates under 5% (Economic Roundtable, 2009).

Conclusion

Los Angeles residents face a harsher version of the national rent burden crisis. The severity of the burden, particularly among the poorest, is a persistent problem, not a new one. Rent burdens have been severe for the poorest 20% since the 1970s, while growing more serious for the middle class.

The data show there has not been enough done to address the housing burdens of the poorest. A solution must address both components of the housing burden, low incomes and high rents, by increasing renter earnings and the supply of affordable housing units. Policies designed to address relatively low incomes, such as increasing the minimum wage. A recent Economic Roundtable report calculates that a $15 minimum wage would lead to $1.8 billion extra dollars spent on housing annually, largely by allowing households to buy rather than rent (Flaming and Burns, 2013).

Simultaneously, affordable housing production and preservation needs to accelerate. Los Angeles's affordable housing trust fund is chronically underfunded, particular since the dissolution of the California Redevelopment Authority and with the reduction in federal funding (Reyes, 2014). Money from the fund is needed to leverage other federal programs like the Low Income Housing Tax Credit. The recently passed California state budget allocates 10% of funds from the cap-and-trade program to affordable housing, but the total amount projected for the state would not make up the shortfall in Los Angeles's fund (NLIHC, 2014).

References

Aguiar, Mark A. and Mark Bils, "Has Consumption Inequality Mirrored Income Inequality?" Working Paper 16807, National Bureau of Economic Research, 2011,www.Nber.Org/Papers/W16807.

Bee, Adam. "Household income inequality within US counties: 2006–2010 American Community Survey Briefs." 2012.

Bobo, Lawrence, Melvin Oliver, James Johnson, and Abel Valenzuela, editors. *Prismatic Metropolis: Inequality in Los Angeles.* Russell Sage Foundation Publications, 2000.

California Housing Partnership Corporation (2014). *How California's Housing Market is Failing to Meet the Needs of Low-Income Families: Recommendations to the Leaders of the State of California.* California Housing Partnership Corporation.

Dewan, Shaila (2014) "In Many Cities, Rent Is Rising Out of Reach of Middle Class" *New York Times* April 14, 2014

Domhoff, G. William. "Power in America: Wealth, Income, and Power." *Who Rules America* (2013).http://www2.ucsc.edu/whorulesamerica/power/wealth.html

Economic Roundtable (2009) *Economic Study of the Rent Stabilization Ordinance and the Los Angeles Housing Market*, prepared for the City of Los Angeles Housing Department.http://lahd.lacity.org/lahdinternet/Portals/0/Rent/RSO_Study_Exec_Summary_wCover.pdf

Flaming, Daniel and Patrick Burns (2013).*Effects of a $15 Dollar an Hour Minimum Wage in the City of Los Angeles* Economic Roundtable, underwritten by the Los Angeles County Federation of Labor, AFL-CIO Available online: http://www.economicrt.org/pub/Effects_15Dollar_MinWage_LA_City/Effects_15Dollar_MinWage_LA_City.pdf

Flanagan, Christine and Mary Schwartz (2013).*Rental Housing Market Condition Measures: A Comparison of U.S. Metropolitan Areas from 2009-2011* American Community Survey Briefs, U.S. Department of Commerce Economics and Statistics Administration U.S. Census Bureau, Washington, D.C.

Gyourko, Joseph, Christopher Mayer, and Todd Sinai. (2006). "Superstar Cities" (Working Paper 12355) National Bureau of Economic Research website: http://www.nber.org/papers/w12355

Hartman, Chester W. (1983) *America's Housing Crisis: What is to be done?* Routledge/Thoemms Press

Heathcote, Jonathan, Fabrizio Perri, and Giovanni L. Violante. "Unequal we stand: An empirical analysis of economic inequality in the United States, 1967–2006." Review of Economic Dynamics 13.1:15-51, 2010.

Joint Center for Housing Studies of Harvard University (2014) *The State of the Nation's Housing 2014* Cambridge, MA: Joint Center for Housing Studies of Harvard University

Joint Center for Housing Studies of Harvard University (2013) *America's Rental Housing: Evolving Markets and Needs* Cambridge, MA: Joint Center for Housing Studies of Harvard University

Logan, Tim (2014a) "Rent prices in the Southland may be topping out" *Los Angeles Times* July 2, 2014http://www.latimes.com/business/la-fi-apartment-rents-20140703-story.html

Logan, Tim (2014b) "Apartment construction surges across the Southland amid rising rents" *Los Angeles Times* May 16, 2014http://www.latimes.com/business/realestate/la-fi-apartment-rents-20140517-story.html

Los Angeles Department of City Planning (2013) "Chapter 1: Housing Needs Assessment" in *Housing Element 2013-2021* Adopted December 3, 2013 http://cityplanning.lacity.org/HousingInitiatives/HousingElement/Text/Ch1.pdf

Meyerson, Harold (2014) "What to do about LA's sky-high rents" *Los Angeles Times* April 24, 2014.http://www.latimes.com/opinion/op-ed/la-oe-meyerson-rent-los-angeles-20140424-story.html

National Low Income Housing Coalition (2014) "California Advocates Secure Key Budget Victories" June 27, 2014 http://nlihc.org/article/california-advocates-secure-key-budget-victories

Oliver, Melvin and Thomas Shaprio. Black Wealth/White Wealth: A New Perspective on Racial Inequality. New York: Routledge, 2006.

Ong, Paul M. and J. Eugene Grigsby III, "Race and Life-Cycle Effects on Home Ownership in Los Angeles, 1970 to 1980," Urban Affairs Quarterly, 1988, 23(4):601-615.

Ong, Paul, Eulalio Castellanos, Luz Echavarria, Ann Forsyth, Yvette Galindo, Mary Richardson, Sara Rigdon Bensinger, Paul Schimek and Holly Van Houten, The Widening Divide: Income Inequality and Poverty in Los Angeles, The Research Group on the Los Angeles Economy, 255 pages, 1989.

Ortalo-Magne, Francios, and Andrea Prat (2007).“The Political Economy of Housing Supply: Homeowners, Workers, and Voters” [Discussion paper TE/2007/514] The Suntory-Toyota International Centers for Economics and Related Disciplines, London School of Economics and Political Science Available online: http://eprints.lse.ac.uk/3678/1/politicaleconomy.pdf

Quigley, John M. and Steven Raphael, “Is Housing Unaffordable? Why Isn’t It More Affordable?” Journal of Economic Perspectives, 18(1):191-214, Winter 2004.

Raya, Josep and Jaume Garcia, “Which Are the Real Determinants of Tenure? A Comparative Analysis of Different Models of the Tenure Choice of a House,” Urban Studies, 49(16):3645–3662, December 2012.
Shapiro, Thomas, Tatjana Meschede, and Sam Osoro. “The Roots of the Widening Racial Wealth Gap: Explaining the Black-White Economic Divide.” Institute on Assets and Social Policy, Feb 2013.

Reyes, Emily Alpert (2014) “L.A. politicians weigh plan to replenish affordable housing trust fund” *Los Angeles Times* May 12, 2014 http://www.latimes.com/local/la-me-affordable-housing-fund-20140513-story.html

Stone, Chad, DaniloTrisi, and Arloc Sherman."A Guide to Statistics on Historical Trends in Income Inequality." Center on Budget and Policy Priorities, 12 Oct. 2013. Web. 13 Mar. 2013.
<http://www.cbpp.org/cms/index.cfm?fa=view>.

Wolff, Edward N., Ajit Zacharias, and Thomas Masterson. "Trends in American Living Standards and Inequality, 1959–2007." Review of Income and Wealth 58.2:197-232, 2012.

Appendix A: Multivariate Analysis of Rent Levels

We ran an ordinary least squares regression that examines the log of gross rent as a function of various quality factors and the data year. We adjusted variables that changed between 1970 and 2009-2011, particularly the housing structure type and building age. The use of the log of gross rent allows an analysis of expected percent change. The model and results are below:

OLS model:

log (Gross Rent) = f(year built, number of bedrooms, dummies for unit type, kitchen facilities, plus a dummy for 2009-11).

Table A1. Los Angeles Log Gross Rent Without Quality Variables

Variable	Parameter Estimate	Standard Error	t Value	Pr> |t|
Intercept	6.45353	0.00472	1368.08	<.0001
2011 Dummy	0.60407	.00525	115.01	<.0001

N = 57,196

Source: U.S. Census and ACS PUMS; tabulated by authors.

Table A2. Los Angeles Log Gross Rent With Quality Variables

Variable	Parameter Estimate	Standard Error	t Value	Pr> |t|
Intercept	6.09513	0.00950	641.78	<.0001
Year Built	0.0234	0.00094431	24.78	<.0001
# of Bedrooms	0.19054	0.00209	91.07	<.0001
Single Family Detached	0.05067	0.00872	5.81	<.0001
Duplex	-0.00019792	0.01185	-0.02	0.9867
Mobile Home	-0.40327	0.02479	-16.27	<.0001
Small multi-family (3-9)	0.00043819	0.00863	0.05	0.9595
Large multi-family (10+)	0.02842	0.00839	3.39	0.0007
Kitchen	-0.11423	0.00911	-12.54	<.0001
2011 Dummy	0.64825	.00525	115.01	<.0001

N=57,196

[Note that Kitchen is 1 for Yes and 2 for No in the Census]

Source: U.S. Census and ACS PUMS; tabulated by authors.

Table A3. U.S. Log Gross Rent with Quality Variables

Variable	Parameter Estimate	Standard Error	t Value	Pr> |t|
Intercept	6.30570	0.00437	1444.18	<.0001
2011 Dummy	0.45997	0.00441	104.42	<.0001

N = 984,425

Source: U.S. Census and ACS PUMS; tabulated by authors.

Table A2. Los Angeles Log Gross Rent With Quality Variables

Variable	Parameter Estimate	Standard Error	t Value	Pr> |t|
Intercept	6.11178	0.00489	1249.98	<.0001
Year Built	0.01832	0.00021656	84.62	<.0001
# of Bedrooms	0.14525	0.00061114	237.68	<.0001
Single Family Detached	-0.05535	0.00249	-22.27	<.0001
Duplex	-0.14610	0.00292	-49.95	<.0001
Mobile Home	-0.48349	0.00349	-138.65	<.0001
Small multi-family (3-9)	-0.15971	0.00252	-63.33	<.0001
Large multi-family (10+)	-0.07366	0.00249	-29.56	<.0001
Kitchen	0.00326	0.00385	0.85	0.3973
2011 Dummy	0.37675	0.00555	67.85	<.0001

N=984,425

[Note that Kitchen is 1 for Yes and 2 for No in the Census]

Source: U.S. Census and ACS PUMS; tabulated by authors.

Endnotes

[1] Los Angeles County is geographically coterminous with the metropolitan statistical area as defined during the period before the turn of the century.

[2] From 1989 to 2007, the percent of Los Angeles families with an annual income of less than $25,000 increased from 16.2% to 18.7% (inflation adjusted). The latter percentage for Los Angeles in 2007 (18.7%) is considerably higher than the 16.5% of American families that fell into this low-income category. During that same year, 12.6% families in Los Angeles had an annual income of $150,000, compared to 10.2% for the nation. In other words, income inequality in Los Angeles is higher than for the nation.

[3]Home ownership rate in Los Angeles is considerable lower than that for the nation. According to the 2011 American Community survey, 46.3% of Los Angeles households are home owners, while the rate for the nation is 64.6%. The lower rate for this region is likely due to a combination of a disproportionate number of low-income households and higher housing cost. Worse, the ownership rate in Los Angeles has declined over the last quarter century, indicating increasing difficulties in making the transition away from being renters.

[4]Carrying out the analysis by decade would show periods of income decline in Los Angeles but were beyond the scope of this research.