



# UCLA ECONOMIC LETTER

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## REAL ESTATE AND THE MACROECONOMY

*A partnership between the UCLA Ziman Center for Real Estate and the UCLA Anderson Forecast sponsored by the Ziman Center's UCLA Rosalinde and Arthur Gilbert Program in Real Estate, Finance and Urban Economics*

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Monthly condensed analyses of crucial real estate and economic issues offered by UCLA Anderson Forecast and UCLA Ziman Center for Real Estate. This January 2023 Letter is by Andrea L. Eisfeldt, UCLA Anderson Laurence D. and Lori W. Fink Endowed Chair in Finance, and Andrew Demers, Two Harbors Investment Economist. They summarize the first study to consider total returns to single-family houses accounting for both rental yields and house price appreciation. Because it is the first such comprehensive report on this quickly growing market, the study holds implications for policy makers and investors on the effect of institutional investment and securitization on housing markets.

This Economic Letter is extracted from a larger report: “Total Returns to Single-Family Rentals,” published by National Bureau of Economic Research. The full report, [linked here](#), includes all citations and graphs. The editors of Real Estate Economics selected it as Best Paper of 2022, and announced the award at the [American Real Estate and Urban Economics Association](#) Presidential Address Luncheon, January 7, 2023.

## Single-Family Rentals: What Drives Investor Return?

By [Andrew Demers](#) and [Andrea L. Eisfeldt](#)

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Single-family rentals (SFRs) represent 35% of all rented housing units in the United States, and have a market value of approximately \$2.3 trillion. Analogous to the dividend yields and capital gains that constitute total equity returns, total returns to SFR assets have two components: rental yields and house price appreciation. There are many important studies of either housing returns from house price appreciation, or of rent-to-price ratios in the literature; however, we believe that we are the first to consider total returns to single-family houses accounting for both rental yields net of expenses, and house price appreciation, in a broad and granular cross section, and a long time series.

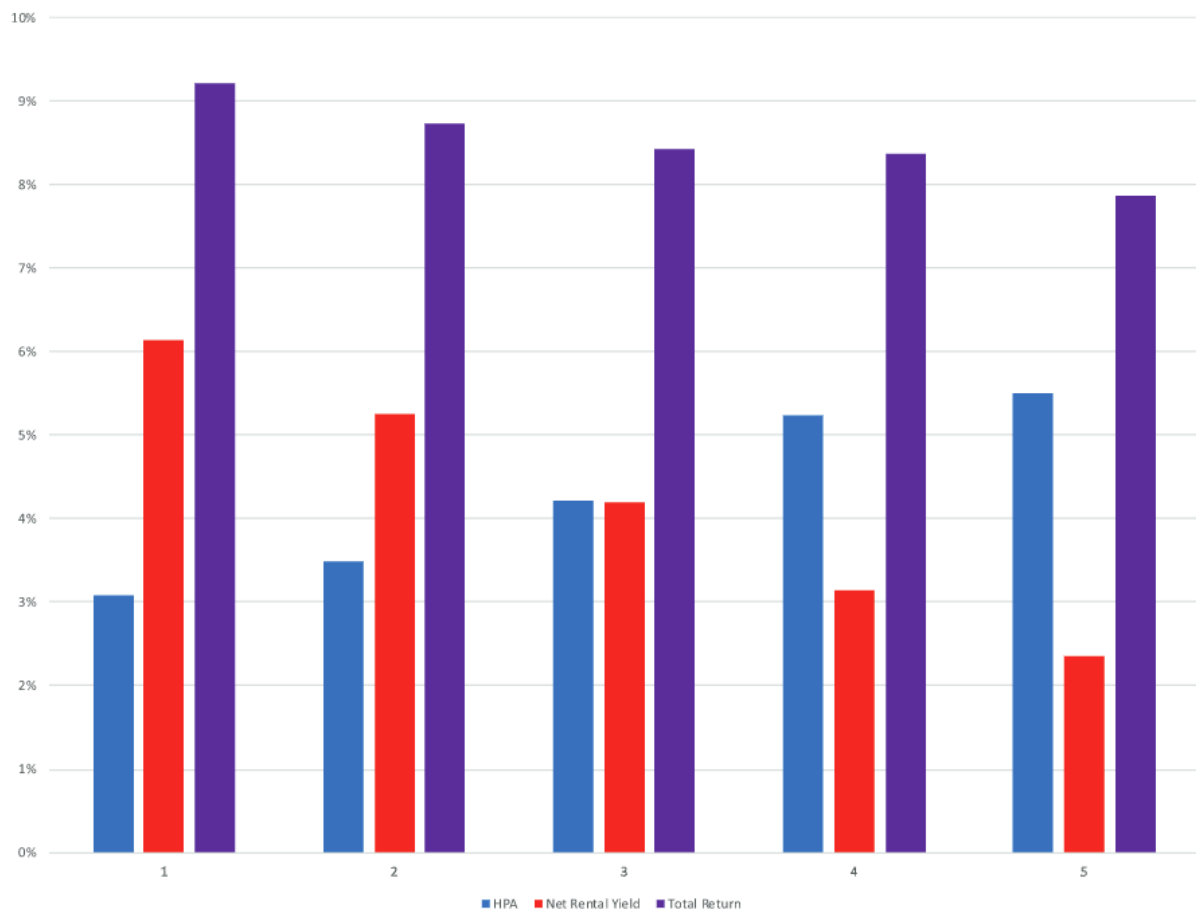
We construct a dataset containing rental yields and house price appreciation data for SFR assets, and study the total returns to this large and understudied asset class over a long time period from 1986 to 2014, and in a broad and granular cross section across U.S. cities and ZIP codes.

Including both the capital gain and rental yield components of SFR returns is crucial to understanding the return properties of single-family housing assets. Each component contributes approximately equally to the aggregate U.S. portfolio of housing returns, so excluding one component excludes half of total returns on average. This may explain why prior studies, focusing either only on rental yields or house price appreciation alone, have reported low returns to U.S. housing assets.

*“Policy makers concerned about the effect of institutional investment and securitization on housing markets require greater insight into how investors might analyze potential portfolios of homes.”*

Moreover, we show that the cross-sectional correlation between these two components is strongly negative at the city level. High price tier city-years have lower rental yields, but higher capital gains, or house price appreciation (HPA). Low price tier city-years have higher rental yields and lower capital gains. Thus, each component paints the opposite picture for the ranking of returns in the cross section of cities. Within cities, across ZIP codes, both net rental yields and house price appreciation are higher in lower-price-tier ZIP codes. The dispersion within cities is smaller for house price appreciation, however, and total return variation within cities is driven mainly by yields. Finally, at both levels of aggregation, rental yields appear to be less volatile than house price appreciation, implying that SFR assets with a larger return contribution from rental yields have higher measured Sharpe ratios.

There is considerable interest in SFRs as an asset class. Although cities do not vary widely in average total returns, there is large variation across cities in the contribution of yields versus house price appreciation to these total returns. Debt investors may favor cities with higher dividend yields, and therefore higher debt service coverage ratios. On the other hand, cities with higher house price appreciation may appeal to private equity investors seeking larger capital gains over a shorter investment horizon.



Annualized average city-level house price appreciation, net rental yields, and total returns  
1986-2014 by house price quintile, lowest (1) to highest (5)  
[Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

Up until very recently, almost all of the approximately 12 million SFR assets were owned by individuals or small investors. However, following the financial and housing crisis of 2008, investment by large investors increased substantially. More recently, three Real Estate Investment Trusts backed by SFR assets have had their Initial Public Offering, with a current total market capitalization of over \$18 billion. Moreover, there are currently about over \$20 billion of SFR-backed bonds outstanding. A sign of current growth in the institutional SFR market is that Fannie Mae recently offered the first guarantee for an SFR securitization. Our study provides the first comprehensive analysis of the total returns to a large asset class, with growing institutional interest.

Understanding the drivers of the returns to SFRs is important for housing economics more broadly. As of the Great Financial Crisis, homeownership rates have steadily declined. The current low homeownership rate of 63.6% is a level not seen in the United States since the 1960s. Institutional ownership of SFR properties may reduce the cost of capital through diversification and lower operating costs through economies of scale. However, whether institutional involvement in SFRs is sustainable depends on the characteristics of the returns to SFRs, and whether the returns are compatible in the long run with institutional investors' objectives and constraints.

Our study describes how the returns to SFRs vary in the time series and cross section. The facts we present inform investors in real SFR assets, as well as in SFR asset-backed securities, about historical asset performance, and about variation in returns in the cross section of cities and ZIP codes. A historical perspective can also help to put into context how this asset class might be expected to perform, and to understand what challenges investors might face. The study may also be of help to policy makers: Those who are concerned about the effect of institutional investment and securitization on housing markets may receive insight into how investors might analyze potential home portfolios. Finally, the stylized facts we develop about rental yields and house price appreciation in the cross section are also independently useful for informing theories of housing valuations across cities, ZIP codes, and price tiers.

We construct time series data describing city-level returns for the largest 30 cities from 1986 to 2014 using data from the American Housing Survey (AHS) from the Census Bureau to construct net rental yields, and Core Logic's House Price Index (HPI) data to compute house price appreciation. Beginning with the 2015 Census, the AHS data only consistently provide data for the top 15 metropolitan areas. We show that our main results are similar using the full time series from 1986 to 2019 using those 15 cities in the Internet Appendix. We combine the time series for net rental yields with the corresponding time series for annual house price appreciation in order to analyze what industry participants call "Total Returns," namely, the sum of net rental yields and capital gains. Total Returns are a useful measure for considering institutional participation in SFRs, because they are analogous to total stock returns from dividends and capital gains. They represent the return reported by institutional investors in the SFR space.

**TABLE** Average net rental yields, house price appreciation, and total returns by city from 1986 to 2014, sorted in declining order by observed biannual Sharpe ratio

City name	Net yield	House price appreciation	Total return	% of total return from net yield	Standard deviation	Sharpe ratio
Pittsburgh	6.0%	3.5%	9.5%	63.1%	2.2%	4.29
St. Louis	5.7%	2.7%	8.3%	68.1%	4.1%	2.02
Dallas	6.2%	2.3%	8.6%	73.0%	4.5%	1.88
Houston	6.9%	3.1%	10.0%	69.3%	5.8%	1.72
Oklahoma City	7.3%	2.0%	9.2%	78.8%	5.6%	1.64
Kansas City	5.8%	3.7%	9.4%	61.2%	6.7%	1.42
Cleveland	4.3%	2.4%	6.7%	63.8%	4.8%	1.4
Minneapolis	5.5%	3.9%	9.4%	58.3%	7.2%	1.31
Philadelphia	3.6%	4.1%	7.7%	47.0%	6.4%	1.2
Atlanta	5.4%	2.6%	8.1%	67.4%	6.8%	1.19
Baltimore	4.4%	4.7%	9.1%	48.6%	7.7%	1.18
Virginia Beach	4.3%	3.9%	8.3%	52.2%	7.2%	1.15
Seattle	3.0%	6.0%	9.1%	33.5%	9.2%	0.99
Washington DC	4.0%	5.4%	9.4%	43.0%	10.0%	0.94
Tampa	6.1%	3.7%	9.8%	62.4%	10.5%	0.93
Chicago	2.9%	3.8%	6.8%	43.3%	7.4%	0.91

(continued)

TABLE (continued)

City name	Net yield	House price appreciation	Total return	% of total return from net yield	Standard deviation	Sharpe ratio
Nassau-Suffolk	2.9%	4.4%	7.2%	39.9%	8.4%	0.86
Boston	2.7%	4.3%	7.0%	38.6%	8.4%	0.84
San Francisco	1.8%	6.7%	8.5%	21.5%	10.5%	0.82
San Diego	3.8%	5.7%	9.5%	39.7%	11.7%	0.81
Miami	5.2%	5.1%	10.3%	50.3%	13.1%	0.78
Anaheim	3.4%	6.1%	9.4%	35.7%	12.3%	0.77
San Jose	2.3%	7.0%	9.3%	24.5%	12.5%	0.74
Phoenix	5.1%	3.8%	8.9%	57.2%	13.4%	0.66
Detroit	4.3%	2.4%	6.7%	64.2%	10.3%	0.65
Oakland	2.7%	6.3%	9.0%	30.1%	13.8%	0.65
New York	1.5%	4.6%	6.1%	24.8%	9.4%	0.65
Newark	2.2%	4.1%	6.3%	35.3%	9.8%	0.65
Los Angeles	2.6%	6.0%	8.6%	30.0%	13.4%	0.64
Riverside	4.5%	4.9%	9.3%	47.8%	15.4%	0.61
Average	4.2%	4.3%	8.5%	49.1%	8.9%	1.14
Stddev	1.56%	1.40%	1.17%	15.91%	3.30%	0.71

