Comment on "Rental Prices and the Cost of Living in the United States, 1914-2006"

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This insightful paper by Lyons, Shertzer, and Gray (henceforth LSG) brings a new dataset to bear on a 20th-century rent inflation puzzle that is relevant for cost-of-living measurement. The paper builds on earlier work assembling over 2.7 million newspaper real estate listings covering both sales and rentals (Lyons, et al. 2026). Using more than one million rental listings, LSG estimate that the U.S. Bureau of Labor Statistics (BLS) consumer price index (CPI) understated inflation due primarily to a vacancy-related non-response bias in the tenant rent index and, to a lesser extent, inconsistent treatment of owner-occupied housing. Because rent change often occurs with tenant turnover, vacancy-related nonresponse leads to a downward bias in average rent changes. Previous work has found qualitatively similar results (Gordon and vanGoethem 2007; Crone, Voith, and Nakamura 2010). LSG's contribution is to apply consistent estimation methods to a novel, large-scale dataset spanning a long time horizon. Their core finding is that a hedonic rent index constructed from newspaper listings exceeds the official BLS rent of primary residence series by an average of 1.1 percentage points per year from 1914 to 2006, with the largest differences occurring prior to 1980.

In the United States, estimates of the CPI are available back to 1913, and methods have evolved substantially over time, including changes introduced in 1978 to address vacancy bias for rents (Crone, Voith, and Nakamura 2010). However, indexes are considered final when released, so methodological changes are not applied retroactively.[1] A research series for overall inflation incorporating such revisions exists, but it extends only back to 1978, when many features of the modern CPI were introduced.[2] It may not be feasible to construct a fully consistent historical series using modern methods, given large changes in the design. Consequently, constructing long-run counterfactuals requires innovative data and methods.

Evaluating LSG's results involves carefully weighing population and methodological differences relative to the BLS indexes. With respect to population, LSG note their newspaper-based indexes reflect rents for new tenants, whereas the BLS indexes cover all

[1] See the technical notes at https://www.bls.gov/cpi/technical-notes/.
[2] See the retroactive series at https://www.bls.gov/cpi/research-series/r-cpi-u-rs-home.htm.

tenants. As units eventually turn over, this distinction should matter less for long-run trends than it does for short-run comparisons, consistent with recent evidence.[3] With respect to method, LSG employ a time-dummy hedonic index. Since this approach does not track the same units over time, it relies on regressions to control for changes in rent-determining characteristics. LSG's model includes measures of size, structure type (house vs. apartment), rental frequency, and standardized location. Although coefficients are allowed to vary over time, gradual improvements in unobserved characteristics—such as building age, air conditioning, and appliances—could introduce an upward bias if they are correlated with rent increases conditional on the observables. Two observations are reassuring. First, the LSG and BLS aggregate rent indexes show similar cumulative growth from 1985 to 2006, after the BLS began addressing vacancy bias. Second, the long-run trends in the aggregate LSG rent index align closely with a bias-corrected BLS rent index constructed by Crone, Voith, and Nakamura (2010) for 1940-2000. Taken together, these comparisons suggest that at an all-cities level at least, any upward bias in the hedonic rent index is likely small relative to the vacancy-related bias in the CPI rent index.

Future research could extend the analysis by accounting more explicitly for differences between renters and owners when assessing implications for broader measures such as Shelter or the overall CPI. While LSG's estimates are plausible, tenant rent may be an imperfect proxy for owner equivalent rent (OER), given differences in housing characteristics. For instance, from 1983 to 2025, the BLS OER index grew about 0.1 percentage points per year more slowly than the tenant rent index.[4] Although this gap is modest, Adams and Verbrugge (2025) show that ignoring structure type can significantly affect OER and aggregate inflation. One extension could be to estimate separate indexes by structure type and aggregate them separately for owners and renters, though this may require larger samples.

In summary, this paper constructs a consistent and compelling record of long-run tenant rent inflation in the United States, revealing economically meaningful differences relative to official statistics. Beyond its historical contribution, it offers a valuable case study in the use of non-survey data in economic measurement.

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[3] See the BLS's experimental repeat rent indexes for new and all tenants at https://www.bls.gov/cpi/research-series/r-cpi-ntr.htm.

[4] My calculation using series CUUR0000SEHA (tenant rent) and CUUS0000SEHC (OER) from the BLS database via https://data.bls.gov/series-report.

References

Adams, Brian, and Randal Verbrugge. 2025. "Location, location, structure type: Rent divergence within neighborhoods." *Journal of Housing Economics* 69.

Crone, T. M., L. I. Nakamura, and R. Voith. 2010. "Rents have been rising, not falling, in the postwar period." *The Review of Economics and Statistics* (The MIT Press) 92 (3): 628-642.

Gordon, R. J., and T. vanGoethem. 2007. "Downward Bias in the Most Important CPI Component: The Case of Rental Shelter, 1914-2003." In *Hard-to-Measure Goods and Services: Essays in Honor of Zvi Griliches*, by E. R. Berndt and C. R. Hulten, 153-194. University of Chicago Press. http://www.nber.org/chapters/c0877.

Lyons, R. C., A. Shertzer, R. Gray, and D. Agorastos. 2026. "The Price of Housing in the United States." *The Quarterly Journal of Economics* 559-603. doi:10.1093/qje/qjaf047.