THE CALIFORNIA *Journal of*
Politics & Policy

Property Tax Fairness in Multnomah County, Oregon

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In an exceptionally thought-provoking book, *Tax Fairness and Folk Justice*, Steven Sheffrin (2013) asks why people hate property taxes. He concludes they do so because property taxes often violate deep-seated notions of fairness, largely because tax burdens fluctuate arbitrarily as a result of unpredictable and apparently capricious changes in property values, leading taxpayers to conclude that the system is neither transparent nor fairly administered. In other words, he argues that the public's feelings towards the property tax reflect legitimate concerns over the fairness of market value taxation. Sheffrin reached this conclusion after decades of trying to make sense of California's Proposition 13, its consequences, and its sustained public approval.

During the 1990s Oregon instituted a property tax system through Measure 5 and Measure 50 that is very similar to California's Proposition 13. While these systems have made property taxes more predictable, evidence has been mounting that the horizontal inequality[1] of property tax assessments in both states has risen (Sheffrin 2008; Thompson and Walker 2014). The question of how to correct this problem without disrupting the positive features of more predictable property tax bills remains unanswered.

One important difference between California's system and Oregon's is that in Oregon assessments are not reset to market value when a property is sold as they are in California. This gives Oregon an interesting, additional degree of freedom for potentially improving the fairness of its assessments.

In this paper we use a rich database of property tax information covering the period between 2003 and 2012 in Multnomah County Oregon to simulate two proposals for how to reset property tax assessments when a property is sold. One proposal emulates Proposition 13 and resets the assessment to market value when a property is sold, while the other proposal resets the assessment using a "changed property ratio," essentially the average assessment ratio for the county.

[1] We define this term more precisely later, but in general we think of horizontal inequality as occurring when there is significant variation between individuals in the proportion of their property's value that is taxed. Vertical inequality is evidently not exacerbated by Oregon's assessment practices (Thompson and Walker 2014) and may be somewhat better than in other states (COST-IPTI 2014).

We use the results of our simulations to evaluate the impact of those proposals on the fairness of property tax assessments.

When compared to the actual assessment ratios (assessed value/real market value) our simulations show a substantial *increase* in horizontal inequality under reset to market, and a consistent, although less dramatic, *reduction* in horizontal inequality using the changed-property ratio to reset assessments. While our simulations necessarily exclude the impacts of lock-in on transactions (Wasi and White 2005), we propose that lock-in is likely to be more severe under reset to market, and conclude that assessment quality would be improved only under the changed-property ratio option.

California's Proposition 13

Proposition 13, which was enacted in 1978, a period of rapid inflation, made the following changes to California's property tax system.

(1) Set the maximum tax rate equal to one percent of assessed value.
(2) Rolled back property assessments to 1975–1976 levels.
(3) Capped annual property tax assessment growth at two percent.
(4) Reassessed properties to market value on resale.

Consequently, Proposition 13 cut property taxes, stabilized growth in tax assessments and payments, and reduced interjurisdictional disparities in tax rates and public services. It has also been associated with substantial horizontal inequities, in which properties of equal market value and with similar hedonic attributes face highly unequal property tax burdens (Sexton et al. 1999); reduced mobility, especially where the property values have increased the most, which has, in turn, somewhat degraded labor market efficiency, increased commuting times and traffic congestion, and inhibited property development and new business formation (Imrohoroglu et al. 2014; Blanchflower and Oswald 2013); and greatly reduced local authority while increasing the state's (Citrin 2009).

Generally speaking, economists do not like Proposition 13 or its counterparts in other states. Nevertheless, it remains popular with citizens. An August 2009 Field Poll, for example, indicated that California voters supported Proposition 13 by a better than 2-to-1 ratio, beating its vote in 1978 by a wide margin.

Sheffrin concludes that Proposition 13's popularity is due primarily to the stabilization of property tax payments it brought about. By making property tax payments more predictable over time, it has greatly increased the transparency and perceived fairness of the system and, thereby, its acceptance. This conclusion was triggered, in part, by Justice Blackmun's reasoning in the Supreme Court decision upholding the constitutionality of Proposition 13, *Nordlinger v. Hahn* (505 U.S. 1 (1992)), which focused on stability, finding virtues (local neighborhood preservation, and continuity) precisely where economists tend to see only vices (lock-in and labor immobility). It's not that Sheffrin and his colleagues (Sexton et al. 1999) embraced Blackman's logic, but they reexamined the empirical evidence on the consequences of Proposition 13 in its light and, given that voters are risk averse and that for most homeowners their property is their largest and most valuable asset, offered a plausible defense of the resulting tax-system's fundamental fairness.

Of course, Proposition 13 also reduced property tax burdens generally, and that fact could just as easily explain its popularity. Sheffrin does not deny this possibility although, he observes,

high property taxes rarely beget tax rebellions. Taxpayers revolt only during periods of instability, volatility, and change.

Oregon's Property Tax System

Oregon's property tax system has a lot in common with California's. It has two components Measure 5 and Measure 50. Measure 5, enacted in 1990 and scheduled to be fully operational in the 1995-96 tax year, capped property taxes at 1.5 percent of Real Market Value (RMV). It further required the state to replace property tax revenue lost to school, education service, and community college districts as a result of the Measure 5 cap, thereby shifting much of the authority to make school-spending decisions from local voters to the state legislature. It also reformed the valuation process to make residential assessments more accurately reflect market value (RMV) and promised to eliminate variations in countywide fractional assessment.

Measure 5 did not pass by much, and earlier similar proposals not guaranteeing more equal and more stable school funding were rejected by wide margins. However, if the success of Measure 5 appears to contradict Sheffrin's belief that the voting public is inherently averse to uncertainties associated with market-value property taxation, its successor, Measure 50, which imposed limits on changes in tax assessments, tends to confirm it.

Measure 50, enacted in May 1997 largely in response to widespread dissatisfaction with the effects of Measure 5, did the following:

1. Locked existing statutory property tax rates in place.
2. Rolled residential property tax assessments back to whichever was less—assessments for the tax year beginning July 1, 1995, reduced by 10 percent, or for the tax year beginning July 1, 1994.
3. Limited future increases in tax assessments, except for new construction or additions, to a maximum of three percent per year.
4. Set the maximum assessment equal to whichever was less: the previous year's assessment plus three percent or real market value.

Differences and Similarities

While Oregon's property tax system is similar to California's under Proposition 13, there are differences, some of them arguably decisive. In the first place, the rate cap is looser, 1.5 percent versus one percent. Second, the assessment growth factor is 50 percent higher, three percent versus two percent. Over the past 40 years, three percent is approximately the statewide, real, mean rate of property appreciation in Oregon. Assessments are not reset to market when property is sold in Oregon, as is the case in California, although, unlike California, they are effectively reset if the Measure 50 cap exceeds market value.

Consequently, whatever else happens, the Measure 5 cap, which set the maximum tax bill equal to 1.5 percent of market value, remains in effect. This means Oregon county assessors continue to report real market values to property taxpayers along with their current tax assessments. In California, assessed values are simply increased by two percent per annum until properties change hands and the tax-assessed value is reset to the market price. The Measure 5 cap also means that in jurisdictions where the statutory tax rate exceeds 1.5 percent, as is often the case in Oregon, tax payments are characterized by less horizontal inequality than assessments, sometimes a lot less (Thompson and Walker 2014).

By horizontal inequality in tax assessments (as opposed to tax payments), we mean the variation (dispersion) in the ratio of assessments to market values (the *assessment ratio*[2]). Clearly, if assessment ratios were identical for all property units (i.e., no variance or dispersion), there would be no horizontal inequality in assessments (or tax payments). Conversely, the greater the variation in assessment ratios the greater the horizontal inequality found in assessments (and, usually, in tax payments). Here, we measure variation in assessments and, thus, horizontal inequality at any point in time using the standard deviation of assessment ratios.

Both California and Oregon's property tax systems are characterized by more than a little assessment variance. In 2010 the Oregon Legislative Revenue Office investigated the extent of horizontal property-tax inequities. Looking at a random sample of properties in Deschutes, Jackson, Sherman, and Multnomah Counties and 2008 data, it found substantial variations in assessment ratios in all price ranges and property types, but little or no *bias* in terms of price range or property type (LRO 2010). Sheffrin (2008) reports even greater variation in assessment ratios in his analysis of properties in Los Angeles County.

There is, however, a big difference in the pattern of variance. California's looked like a Pareto distribution, bounded at an assessment ratio of one and tailing off to ratios approaching zero. Oregon's, as of 2008, looked more or less like a standard normal distribution centered on the mean assessment ratio. This is depicted in Figure 1, a box and whiskers chart showing the variance in assessment ratios (TAV/ RMV) for every single-family residence in Multnomah County for each year from 2003 to 2012. The solid bar shows the mean assessment ratio, the box shows its standard deviation, and the whiskers show the range of assessment ratios.

During the period before 2008, when home prices increased faster than three percent, the mean assessment ratio fell, but dispersion (assessment quality) didn't degrade very much, if at all. Evidently a rising tide did lift all boats. Indeed, through 2008 one might reasonably claim that existing horizontal inequities were almost entirely caused by rolling assessed values back to 1994 levels, an explicit element of Measure 50, not an unintended consequence of its operation.

Assessment quality clearly deteriorated after 2008 when, according to the Case-Shiller index, the median Portland home lost nearly 30 percent of its value. Evidently, this process was much more uneven. Using the coefficient of dispersion for all single-family residences (including new construction), assessment quality declined from .144 in 2003, to .176 in 2008 and .225 in 2012 (Thompson and Walker 2014). Errors were normally distributed prior to 2008 but were less normal afterwards, partly because the top end was compressed by falling home prices (RMVs).

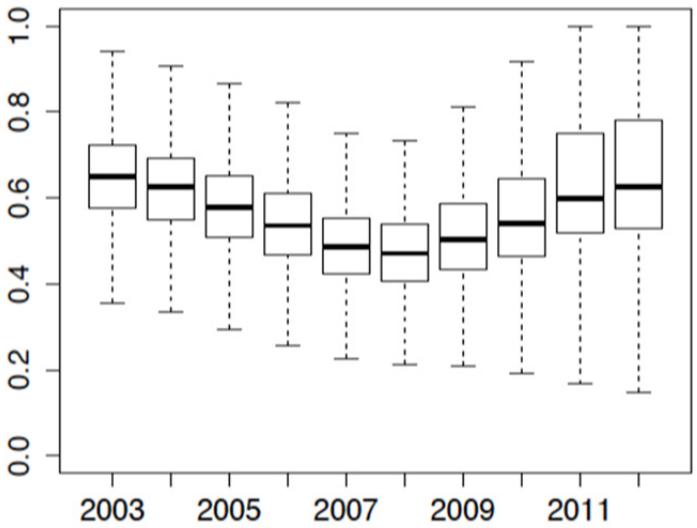
Unanswered Questions

That assessment quality materially deteriorated in Oregon after 2008 raises the question: can something be done about it without sacrificing the tax stability and predictability brought about by Measure 50? The League of Oregon Cities argues that the variance in tax-assessment ratios is driven primarily by differences in the rates at which properties have appreciated since 1994 (citing an article in *Willamette Week* [Pitkin, 2007]), and this problem could be fixed by adopting California's system of resetting assessments to market value upon resale (LOC 2014).

Measure 50's architect, tax-activist Bill Sizemore, claims this device, if adopted, would simply make things worse. Oregon's *bien pensants* are predisposed to question anything Size-

[2] The reciprocal of this ratio, the ratio of market values to assessments, is called the *dispersion ratio*. Consequently, if the assessment ratio were .5 (tax-assessed value/ market value = .5), the dispersion ratio would be 2 (market value/tax-assessed value = 2).

Figure 1. Box and Whiskers Chart of Assessment Ratios, Multnomah County, Oregon, 2003–2012.



more says. Sheffrin and his colleagues (Sexton et al., 1999), who attribute the dispersion in assessment ratios in California to the reset to market combined with California's two percent assessment-growth factor, tend to support his claims.

Oregon's tax assessors are equally concerned with the ongoing deterioration in assessment quality and many of them support reassessment on resale, with a twist. When new construction occurs in Oregon, the property is given an assessed value based on its market value, but county assessors use what they call the "changed-property ratio" to calculate the new assessed value. The "changed-property ratio" is simply the ratio of the sum of the county's tax-assessed value to the sum of its real market value, i.e., the countywide average (or mean) assessment ratio, existing at the tax census date.

Each year, the ratio is updated. A new property's tax assessment is its market value multiplied by the changed property ratio. For example, a new residence built in the 2012–13 tax year would be assigned an assessed value equal to 73 percent of its market value. Several county assessors have proposed resetting assessment to market on resale using the changed-property ratio to calculate the new assessment. They argue this would preserve the benefits associated with Measure 50, promote assessment quality, and largely forestall the lock-in problems associated with California's Proposition 13.

Evaluating These Claims

Fortunately, Oregon, almost uniquely, provides the data needed to evaluate these claims: accurate information on real market value, tax-assessed value, transactions, and sale prices (although we did not use the last data element in our analysis directly) for each tax unit in the state. Unfortunately, the data for individual tax units reside at the county level, and the county data

files are not easily merged. Consequently, we looked only at Multnomah County, which has about 20 percent of the state's population and a third of its assessed and real market value. We restricted our analysis to single-family dwellings that were included in the county data file for all 10 years that we scrutinized (which excludes all new construction), leaving a total of 57,015 observations each year.

Using this sample, we simulated the effects of implementing the League of Oregon Cities' reset to market proposal and the effects of implementing reset using the changed property ratio, assuming that all transactions that actually took place would have taken place under both assessment regimes. Finally, we calculated mean assessment ratios and standard deviations for each year and compared the results of the simulations with actual outcomes. The simulations are described in the text box "Setting up the Simulations" and the results in Table 1.

Setting Up the Simulations

1) We created a variable tracking sales that took a value of 1 whenever the property ID was the same as in the previous year but the owner ID was not the same as the previous year and 0 when both the property ID and the owner ID were unchanged.

Simulating the Reset to the Changed Property Ratio at Resale

2) The 2003 values for maximum assessed value and actual tax assessed value were used to start the simulation, which implicitly presumes that the rule change occurred in 2004.
3) The changed property ratio based on the 2003 data was calculated and stored.
4) If the sale variable was 0 in 2004, ORS 308.146 was followed literally "The maximum assessed value of property shall equal 103 percent of the property's assessed value from the prior year or 100 percent of the property's maximum assessed value from the prior year, whichever is greater." The new assessed value in 2004 was then calculated as the lower of the real market value or the maximum assessed value.
5) If the sale variable was 1 in 2004 the maximum assessed value was set to the real market value multiplied by the changed property ratio stored in step 3.
6) We repeated the process from step 3, but stepped forward one year until we reached the end of the data.

Simulating the Reset to Real Market Value at Resale

7) This process is identical, except for step 5, where the maximum assessed value is set equal to real market value when the sale variable is 1.

Table 1 shows that from 2005 to 2008, when market values were increasing faster than three percent per annum, the standard deviation of assessment ratios declined in Multnomah County when new construction is excluded (although it increased somewhat as a fraction of the mean

Table 1. Simulated and Actual Assessment Ratios and Standard Deviations

Year	Actual Avg AR	CPR Reset Avg AR	Mkt Reset Avg AR	Actual AR StDev	CPR Reset AR StDev	Mkt Reset AR StDev
2005	0.559	0.569	0.649	0.113	0.106	0.200
2006	0.518	0.532	0.642	0.110	0.101	0.217
2007	0.469	0.487	0.618	0.101	0.093	0.225
2008	0.455	0.471	0.622	0.101	0.091	0.232
2009	0.491	0.505	0.679	0.113	0.100	0.244
2010	0.532	0.542	0.730	0.130	0.112	0.244
2011	0.610	0.614	0.794	0.161	0.136	0.228
2012	0.643	0.642	0.821	0.175	0.146	0.220

assessment ratio). After 2008, when market values were falling, variation increased substantially, both absolutely and relatively.

Our simulations suggest that, had tax assessments been reset on resale of properties using the changed property ratio, horizontal inequality would have fallen faster before 2008 and increased more slowly after. In contrast, reset to market would have increased horizontal inequality in tax assessments during both periods.

The following histograms make these conclusions patently clear (note that the vertical scale varies to accommodate the height of the resulting distributions).

Much against our inclinations, we have to count this one for Bill Sizemore. If anything, this simulation probably underestimates the negative effects of reset to market insofar as it implicitly presumes that tax assessment would have no effect on transactions. That is surely not the case. The evidence indicates that lock-in tends to increase with the gap between assessed values and market values (Wasi and White 2005), which, if instantiated, would make worse an already bad outcome.

Note that the bizarre distribution of assessment ratios shown for the reset to market simulation in 2012 looks nothing like California's smooth Pareto distribution, which reflected 30 years of more or less steady appreciation of property values. Its extreme skew shows the consequences of the real-estate crash. Between 2008 and 2012, the roll back in market valuation would have consigned nearly every property resold during the entire period covered by the simulation to the 100 percent bin. Despite an extraordinary reduction in the resale rate after 2008, had the reset to market rule been in effect, by 2012 half of the properties in the sample would have been assessed at real market value.

Of course, had reset to market been in effect, some of those transactions probably would not have occurred (Wasi and White 2005). This simulation shows that, under the reset to market prices, local property tax payments would likely have been higher than they were, especially where the statutory tax rate was equal to or less than the 1.5 percent cap and not subject to Measure 5 compression.

Figure 2a. Observed Assessment Ratios 2004-8-12

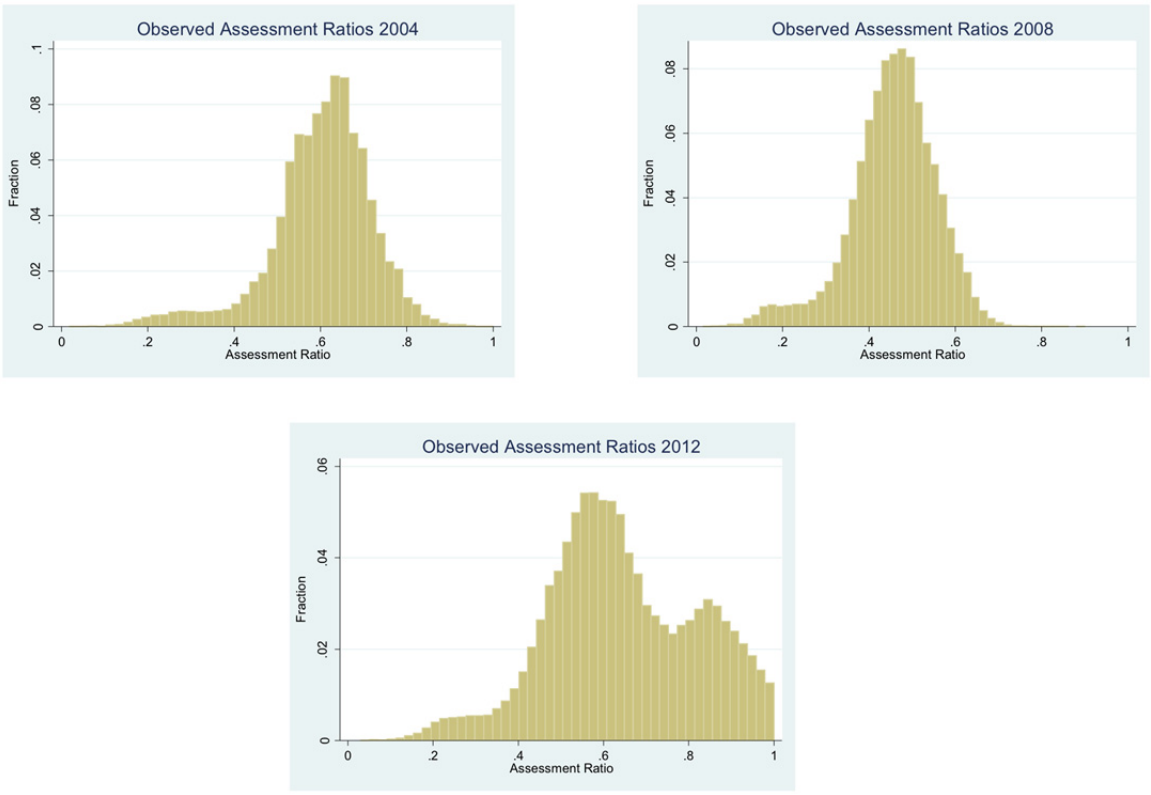


Figure 2b. Simulated Assessment Ratios 2004-8-12 Reset to Market

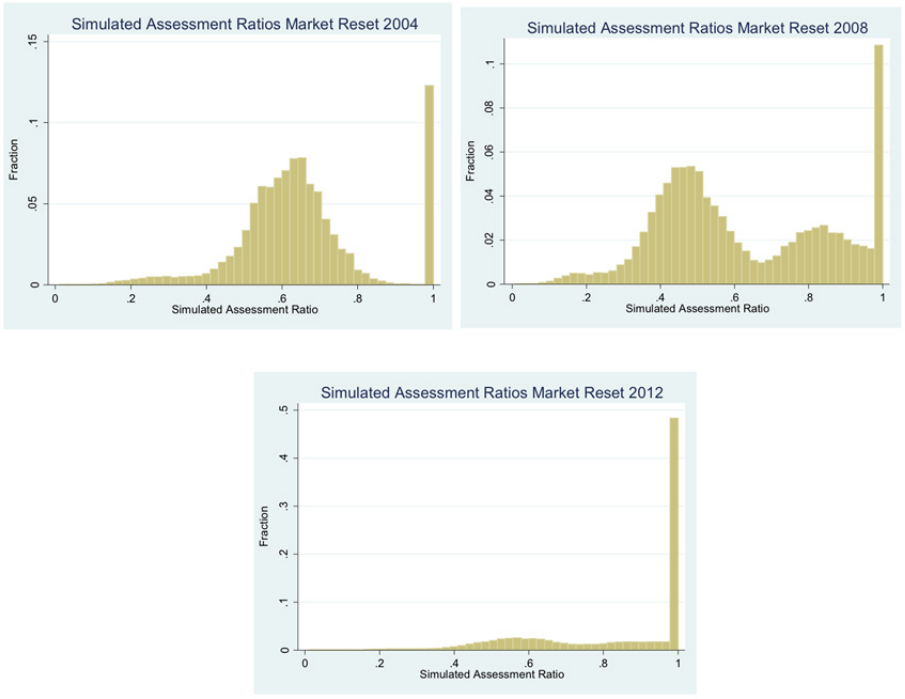
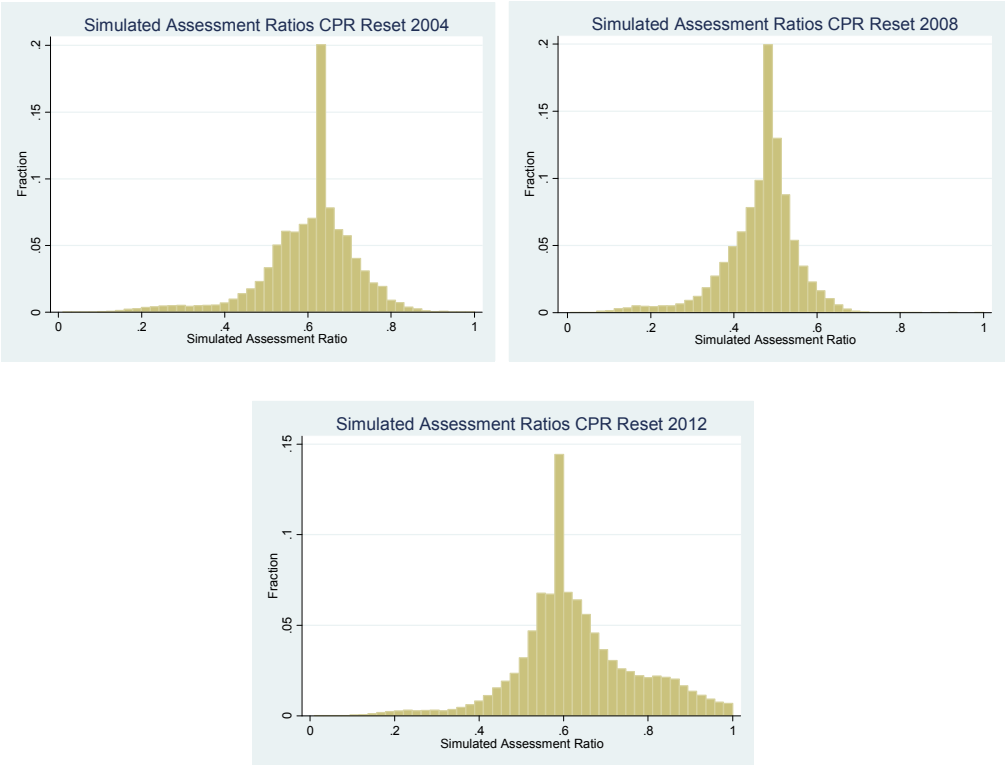


Figure 2c. Simulated Assessment Ratios 2004-8-12 Reset Using the Changed Property Ratio



Discussion

In Property Tax Limitations and Mobility: The Lock-in Effect of California's Proposition 13 (2005), Nada Wasi and Michelle J. White found that Proposition 13 caused a substantial increase in the average tenure of California households relative to households in other states. "From 1970 to 2000, the average tenure of California homeowners and renters increased by 1.04 and .79 years relative to that of homeowners and renters in the control states. These figures represent increases in average tenure of 10 percent and 19 percent, respectively."

Moreover, they found that Proposition 13's effect on mobility depended on the size of the gap between assessments and market value. The largest effects occurred where the increase in property values were greatest. "From 1970 to 2000, average tenure length increased by less than one year in inland California cities, but by more than two years in the Los Angeles area and by three years in the Bay area." It is almost certain that reset to market would have had a similar effect in Oregon.

Would reset using the changed property ratio have had a similar effect as well? It would probably be less severe, but beyond that we simply do not know. Nevertheless, from what we do know about residential mobility, the people even economists often want to protect against rapid, unanticipated increases in their tax bills, senior citizens without mortgages, are the people most likely to stay put. They would remain among the more important beneficiaries of Measure 50. Shifting to a system of reassessment at title transfer, regardless of how it is done, wouldn't

weaken that protection, nor would it generally violate the fairness concerns that Sheffrin so eloquently argues bulk large in popular opinion.

Finally, in carrying out this analysis, we identified a possible benefit of assessment stabilization evidently not noted in the literature. For the past 15 years, home prices, rents, and median incomes have all increased faster on the less affluent east side of Multnomah County than the more affluent west side. This represents a sea change in the gross dynamics of Multnomah County's property values. Before Measure 50, property values were not only higher on the west side of the river they were increasing faster. After enactment of Measure 50, that dynamic reversed.

During the 2002–2008 real estate boom, property values grew slightly faster on the east side than the west, fell less during the bust that followed and recovered faster. Between 2004 and 2008, mean and median market values of single-family residences increased two percent faster on the east side than the west; between 2009 and 2012, the mean east side residence lost 11 percent of its value versus 19 percent on the west, while the median lost 10 percent versus 20 percent. The gap between east side and west side assessment ratios, and thus effective tax rates, has probably never been higher.

Is this a bad thing? For decades, Multnomah County experienced increasing segregation by income class and race. Between the 2000 census and the 2010 census, that pattern dramatically reversed itself. For example, 10 out of 29 census tracts in Portland—all on the east side—were majority nonwhite in 2000. By 2010, none of the 29 tracts were. Overall, despite a 21.4 percent increase in the black population of the Multnomah County region (twice the growth of the county overall), it was less concentrated at the end of the decade than the beginning. That looks to us more like a virtuous than a vicious cycle. The critical question is whether Measure 50's assessment caps caused the cycle, virtuous or otherwise. The evidence at 10,000 feet suggests it may have, but is hardly conclusive. This issue requires a much more careful look.

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