Property Taxes in the 2000 Census

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The most comprehensive effort to collect residential property tax data across the entire U.S. takes place once every ten years during the decennial Census. The Census long-form questionnaire asks home owners the amount of property taxes they paid the previous year, and also asks them to estimate the current value of their homes. From these data it's possible to construct an effective property tax rate by dividing the annual tax payment by the estimated market value.

Because of inconsistencies in government accounting practices, with different types of property often lumped together, it's difficult to compare effective tax rates on residential real estate from data reported by state and local governments. The decennial Census thus provides one of the few chances to study residential real estate tax differences across the country.

Property Tax Background

For home owners, property taxes are generally a significant part of the ownership costs. A previous article reported that annual operating costs of home ownership (excluding mortgage interest payments) averaged about 4.5 percent of the home's value.[1] More than a quarter of this (1.3 percent of value) consisted of property taxes. Property taxes tended to account for a larger share of the cost in newer homes, which generally had lower overall operating costs, due primarily to reduced maintenance and repair and smaller fuel bills. Unlike most other costs faced by home owners, property taxes can be deducted from income on federal tax returns. This advantage is unavailable to owners who don't itemize their deductions, however, or to renters who pay property taxes indirectly in the form of higher rents.

For prospective home buyers, property tax rates become an issue when trying to qualify for a mortgage. Mortgage lenders typically require that the costs of the mortgage payment plus property taxes and insurance stay under a certain percentage of the buyer's income. If impact or other construction related fees are used as a substitute for property taxes, however, the resulting increase in price of the house (and cost of the loan needed to purchase it) can more than offset any reduction in property taxes for those trying to purchase a new home.

For local governments, property taxes are generally the largest single source of revenue. In 1997, property taxes accounted for about 46 percent of local government own-source revenue (excluding revenue from government owned gas, electric, or transit utilities, and liquor stores). Although state governments collect some property tax revenue, over 95 percent is collected directly by local jurisdictions. According to the Census of Governments, in 1997 aggregate property tax revenue for all local governments in the U.S. was $209 billion—compared to only $10 billion for state governments.

The extent to which jurisdictions rely on property taxes to fund local services varies from state to state. Property taxes account for well under 20 percent of local own-source revenue in Alabama, but over 80 percent in Connecticut, New Hampshire, Rhode Island, and Vermont (Table 1).

The administration of the tax is also variable. Many jurisdictions have adopted the practice of applying a tax rate to an assessed value that is a fraction of market value. Some state constitutions even mandate a particular "assessment ratio." Also common are "homestead exemptions," that exclude a certain fraction of assessed value from the tax if a home is owner occupied. These factors can cause published tax rates to diverge substantially from the effective rates.

Besides homestead exemptions, states employ various "circuit breakers" that provide property tax relief, often to a particular class of residents based on characteristics such as age, disability, or military service. The tax relief may be in the form of a lower tax bill, rebate, or state income tax reduction. Households responding to the Census are unlikely to take rebates and income tax reductions into account when reporting annual property tax payments, and in those situations the effective rates shown in Table 1 may overstate the actual effective rate.

There are also substantial differences in property assessment practices, such as how often they are performed. This can have implications for effective property tax rates, particularly when property values are changing rapidly. Under California's Proposition 13, for example, property is only reassessed when it is sold. This can lead to different effective tax rates on adjacent properties based solely on how recently they have turned over. A substantial line of academic literature extending back at least to the early 1970s has studied the problem of chronic over-assessment of property values, leading to high effective property tax rates, in low-income,

often predominantly black neighborhoods. A 1972 article by Black, for example, investigated this issue in Boston. The article found that homes in neighborhoods with the lowest median incomes were assessed at a substantially higher proportion of market value, and that the over-assessment problem was especially severe in neighborhoods with predominantly nonwhite populations.[2] An article published by Chun and Linneman in 1985 found similar results in Philadelphia.[3]

Even adjusted for inflation and population increase, aggregate property tax payments doubled between 1960 and 2000, from $448 to $896 per capita in 2001 dollars (Figure 1). The growth has been constant and relatively steady, except for the period between 1972 and 1982—the era of several highly publicized "tax revolts" like California's Proposition 13. A recent academic article reported that half of the United States imposed limitations on the ways local governments can collect revenue during the late 1970s and early 1980s.[4]

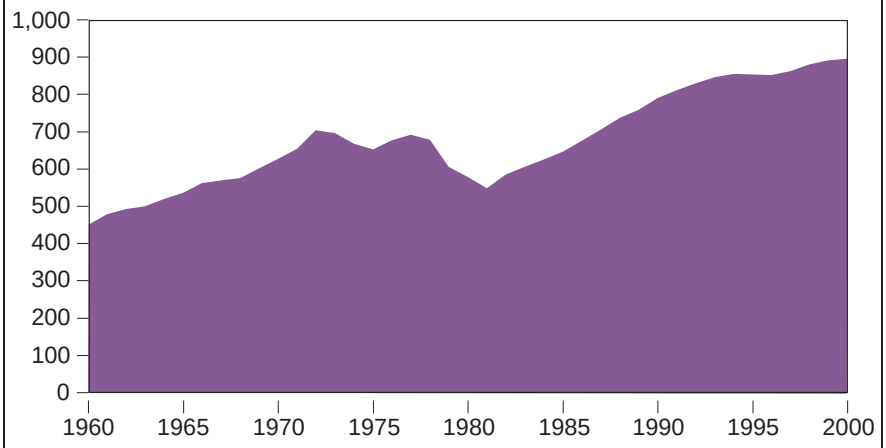
Since 1960, however, government revenue from all sources (along with household income) continued to rise. Moreover, state and local governments turned increasingly to other sources of revenue, particularly income taxes and various fees. As a result, property tax revenue fell from over 38 percent of state and local government receipts in 1960 to roughly 22 by 1980 (Figure 2). After a modest reversal in this trend, property taxes as a share of state and local government receipts again began to decline, this time quite gradually, in the 1990s. In 2001, property taxes accounted for a little over 20 percent of state and local receipts.

Table 1. Property Taxes and Local Government Finances

State	Avg resid. property tax per $1,000 of value in 2000	Med. resid. property tax per $1,000 of value in 1990	Property taxes as a share of local govt. revenue	Local govt. current expenses per household	Avg. value of homes in 2000	Increase in avg. value 1990-2000
Alabama	3.78	2.16	17.3%	$4,370	$109,920	71.4%
Alaska	12.44	9.34	48.0%	$8,167	$158,065	52.6%
Arizona	7.39	6.54	43.1%	$4,566	$154,554	61.8%
Arkansas	7.00	5.99	32.6%	$3,628	$90,377	65.2%
California	7.20	5.11	34.2%	$8,015	$283,891	23.0%
Colorado	6.52	10.87	36.7%	$5,342	$203,316	113.5%
Connecticut	14.33	10.44	83.6%	$5,754	$232,424	9.4%
Delaware	6.32	5.22	49.0%	$4,048	$153,474	27.5%
DC	6.18	6.66	21.9%	$15,284	$252,141	31.9%
Florida	11.71	7.92	41.4%	$5,270	$141,659	43.9%
Georgia	8.55	7.41	38.9%	$5,117	$143,792	64.4%
Hawaii	3.08	2.88	50.8%	$2,893	$311,519	15.1%
Idaho	9.06	9.98	47.9%	$4,864	$130,058	93.7%
Illinois	16.07	14.20	57.7%	$5,719	$164,061	59.7%
Indiana	9.51	8.93	56.1%	$4,918	$113,854	79.8%
Iowa	12.87	17.35	52.6%	$5,376	$97,682	87.4%
Kansas	11.56	13.79	49.0%	$5,346	$103,669	67.4%
Kentucky	7.24	5.77	29.0%	$3,414	$105,952	76.9%
Louisiana	3.59	0.00	23.4%	$4,742	$106,953	59.9%
Maine	13.03	11.04	76.3%	$4,531	$123,917	21.0%
Maryland	11.21	9.99	43.5%	$5,155	$179,458	27.1%
Massachusetts	11.15	9.11	72.4%	$4,910	$234,345	26.2%
Michigan	12.36	23.79	50.3%	$6,396	$142,654	94.8%
Minnesota	11.47	10.28	52.7%	$6,379	$142,700	71.1%
Mississippi	6.18	4.23	39.0%	$4,746	$90,164	66.9%
Missouri	9.22	8.21	38.0%	$4,361	$114,482	60.3%
Montana	10.88	13.52	54.4%	$4,533	$118,825	93.8%
Nebraska	16.44	20.64	53.3%	$5,228	$102,822	82.8%
Nevada	7.92	6.28	30.1%	$5,321	$172,989	50.0%
New Hampshire	19.90	16.36	83.8%	$4,534	$156,863	9.9%
New Jersey	20.48	16.26	76.2%	$7,031	$215,955	17.5%
New Mexico	6.14	5.16	29.5%	$4,755	$133,895	63.9%
New York	18.34	16.26	42.9%	$9,467	$190,078	20.9%
North Carolina	7.63	7.32	37.2%	$4,842	$137,312	73.8%
North Dakota	16.87	15.85	55.1%	$4,512	$82,996	54.8%
Ohio	12.05	11.15	45.2%	$5,553	$126,338	70.2%
Oklahoma	7.98	6.82	27.0%	$4,259	$86,757	53.3%
Oregon	10.45	22.17	45.8%	$5,760	$179,788	128.9%
Pennsylvania	15.13	13.52	49.7%	$5,385	$120,745	38.5%
Rhode Island	16.72	11.38	80.9%	$4,693	$162,684	6.6%
South Carolina	5.49	6.45	41.1%	$4,324	$127,539	72.0%
South Dakota	16.10	22.57	54.9%	$4,109	$91,457	84.5%
Tennessee	7.63	6.82	30.6%	$4,316	$119,923	70.6%
Texas	16.98	12.80	51.3%	$5,095	$109,639	49.1%
Utah	6.37	9.69	42.9%	$5,049	$175,587	120.8%
Vermont	17.75	14.20	80.6%	$4,354	$131,727	19.5%
Virginia	8.91	8.08	51.2%	$4,887	$160,382	31.7%
Washington	10.24	9.53	35.2%	$5,482	$208,850	75.3%
West Virginia	5.34	2.64	44.9%	$3,885	$86,995	59.4%
Wisconsin	18.51	25.28	64.2%	$6,434	$131,853	84.8%
Wyoming	5.92	6.45	40.8%	$7,024	$124,241	84.1%
U.S.	11.27	9.69	45.9%	$5,818	$158,934	43.4%
Correlation with 2000 tax rate:			0.73	0.13	-0.06	

Notes: Local government revenue is all general revenue, except that from interest or property sales, plus revenue from water utilities. Local government expenses are current expenses for all general government functions plus expenses for water utilitiles. Expenses per household are derived by dividing 1997 expenses by 2000 household counts.
Sources: U.S. Census Bureau: 1990, 2000 Census of Population and Housing; 1997 Census of Governments.

Figure 1. Property Taxes Per Capita (in 2001 Dollars)



Sources: Special Tax Report, Tax Foundation; Population Estimates, U.S. Census Bureau.

Census in 2000 vs. 1990

Published tables from the 1990 Census included no separate property tax data, and effective property tax rates had to be constructed in a somewhat awkward manner from the microdata. Limitations in these data made some of the observations unusable and restricted reported results to median rather than average tax rates. For the 2000 Census, at NAHB's request, the Census Bureau included aggregate property taxes paid by owners of "specified" homes (single family, on less than 10 acres, not including a business or medical office) in the summary tables. This is a notable improvement that, combined with aggregate value of the specified homes, allows us to compute an average effective property tax rate for every level of geography down to census tracts (subdivisions of counties with roughly 1,500 to 8,000 residents).

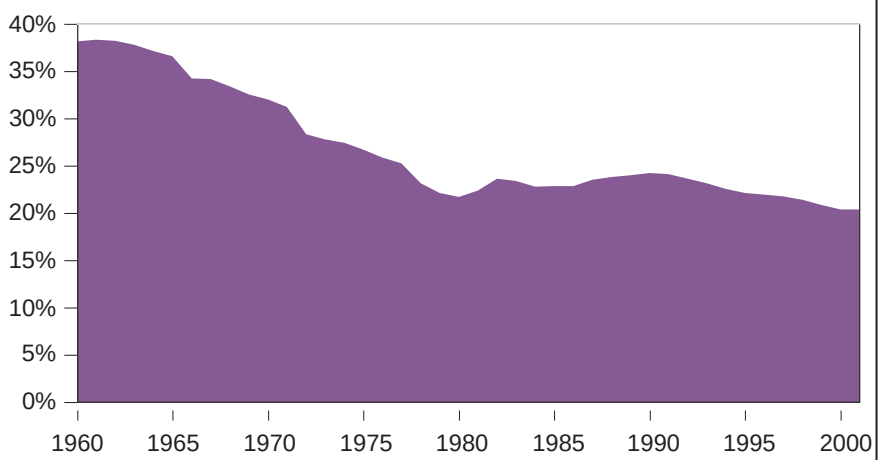
The accuracy of these effective rates depends on the accuracy of the home value estimates and property tax payments reported by households in the Census. Several fairly recent academic studies have found that owners tend to overestimate the values of their homes in government surveys by as much as eight percent,[5] but that the percentage doesn't vary in a systematic way with any house or household characteristics. If true, this implies that effective tax rates computed from Census data should capture differences that genuinely exist across the country, although the rates in general could be slightly understated. On the other hand, an older study undertaken by the Census Bureau to evaluate the 1970 Census provided some evidence that owners were at that time underestimating the values of their homes.[6]

None of the studies of the accuracy of values reported in surveys studied the problem in small geographic areas, however, and this should be kept in mind when looking at tax rates in areas as small as census tracts or counties with relatively few owner-occupied housing units. In such cases, a few outliers or a localized tendency to misreport home values have potential to distort the results. Homeowners may also mis-report the amount they pay in property taxes.

Differences Among States

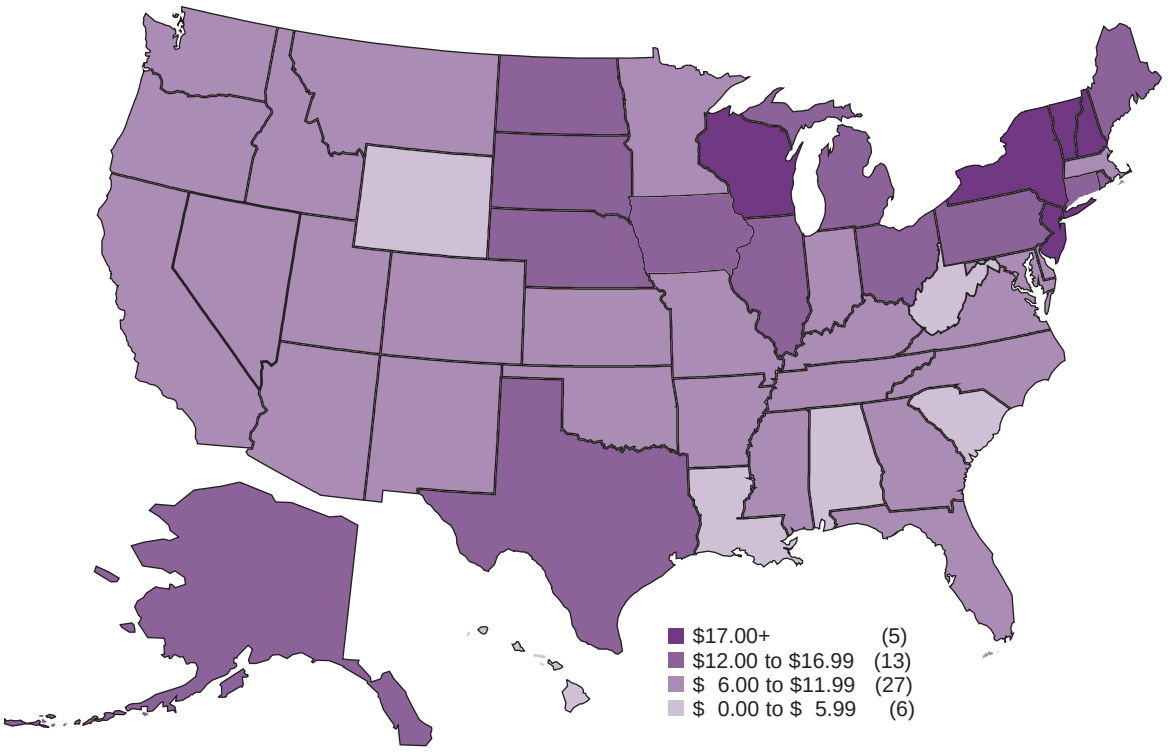
Table 1 shows average effective residential property tax rates per $1,000 of property value for all states and the District of Columbia in 2000. There are several reasons residential property tax rates differ across states: differences in the services provided by local governments, or the cost of providing the services; the extent to which local governments rely on property taxes to fund those services; the share of property taxes levied on residential property; and the values of the homes to which the rate is applied.

Figure 2. Property Taxes as a Share of State and Local Government Receipts



Source: U.S. Bureau of Economic Analysis.

Figure 3. Property Taxes per $1,000 of Value in 2000



Source: U.S. Census Bureau: 2000 Census of Population and Housing.

Information about some of these factors is available from the 1997 Census of Governments, as well as the Decennial Census and included in Table 1. The numbers confirm the traditional tendency of many Southern states to rely less heavily on property taxes as a source of revenue and help explain. Simple correlation coefficients show that state-to-state variations in property tax rates are more strongly correlated with property taxes as a share of all local government receipts than with either local government spending per household or the average value of owner-occupied homes.

Although the table shows only a slight correlation between tax rates and property values among states, much research has sought to relate differences in house values to differences in property tax rates. According to a conventional argument, lower tax rates provide an economic advantage that should be capitalized into the value of the structure.[7] However, it is also true that a fixed amount of tax revenue can be generated with lower tax rates if house prices are higher in a particular area. Another pertinent factor is the often-expressed belief that wealthier neighborhoods require fewer public services than less affluent areas.[8] In short, the relationship between house prices and tax rates is driven by the interaction of several economic forces. It's therefore not surprising that numerical estimates of the relationship reported in the literature vary depending upon the time period and geographic area covered.

Trends: 1990 to 2000

Table 1 also shows median effective tax rates computed from the 1990 Census.

In comparing state tax rates across time, it's important to keep in mind that Table 1 reports medians for 1990 and means for 2000. This alone explains the difference in Louisiana, where a powerful homestead exemption results in over half the home owners paying no property tax at all—so the median tax rate is 0%, while the average rate, although relatively small, will be greater than 0% as long as at least one owner is paying the tax.

Even so, some of the 1990-2000 trends are readily explained. The Census data show property tax rates falling drastically in Michigan, for example, a phenomenon that is clearly attributable to changes in Michigan tax law. Although most of the large statewide property tax reforms were adopted before 1985, a few states revisited the issue in the 1990s. Michigan enacted "Proposal A" in 1994. Proposal A shifted a

Table 2. Effective Residential Property Tax Rates: State Highs and Lows

State	Lowest County in State	Rate	Avg Value	Highest County in State	Rate	Avg /Value	Hi-to-Low Ratio	Rate/Value Correlation
Alabama	Choctaw	1.72	73,555	Jefferson	5.64	125,309	3.27	0.34
Alaska	SE Fairbanks	3.72	121,078	Anchorage	14.42	179,341	3.88	-0.21
Arizona	Apache	4.28	67,990	Yuma	9.18	102,451	2.15	0.28
Arkansas	Newton	4.93	60,274	Pulaski	9.18	111,356	1.86	0.00
California	San Francisco	5.40	472,731	Kern	11.32	111,850	2.10	-0.64
Colorado	Gilpin	3.12	198,672	Washington	8.91	80,686	2.85	-0.45
Connecticut	Fairfield	11.54	397,155	Hartford	17.82	174,438	1.55	-0.66
Delaware	Sussex	4.04	156,441	New Castle	7.03	157,968	1.74	-0.08
DC	DC	6.18	252,141	DC	6.18	252,141	1.00	.
Florida	Dixie	5.61	80,532	Miami-Dade	14.49	162,594	2.58	0.26
Georgia	Towns	2.96	154,872	Liberty	12.79	88,681	4.32	-0.17
Hawaii	Maui	2.91	308,874	Hawaii	3.18	189,910	1.09	-0.55
Idaho	Blaine	4.71	421,698	Bannock	12.15	104,417	2.58	-0.33
Illinois	Hardin	7.16	51,018	Winnebago	23.93	104,558	3.34	0.46
Indiana	Ohio	4.42	110,913	St Joseph	11.95	103,678	2.70	-0.14
Iowa	Dickinson	8.96	138,715	Wapello	15.21	64,112	1.70	0.08
Kansas	Linn	7.69	67,714	Rush	17.43	40,728	2.27	-0.39
Kentucky	Wolfe	3.22	87,665	Campbell	9.40	121,115	2.92	0.41
Louisiana	Assumption	1.21	89,921	Caddo	6.10	93,074	5.04	0.21
Maine	Hancock	8.96	148,547	Androscoggin	17.79	100,434	1.98	-0.26
Maryland	Talbot	5.31	234,736	Baltimore	17.76	83,247	3.34	-0.19
Massachusetts	Nantucket	3.07	641,906	Hampden	15.12	133,509	4.92	-0.89
Michigan	Leelanau	6.54	237,511	Ingham	16.61	119,475	2.54	-0.05
Minnesota	Aitkin	6.72	110,187	Pennington	13.84	71,263	2.06	-0.18
Mississippi	Tunica	2.86	69,844	Kemper	9.14	66,124	3.20	-0.02
Missouri	Camden	4.76	153,327	Jackson	11.33	103,531	2.38	-0.10
Montana	Ravalli	6.96	153,105	Phillips	17.17	59,775	2.47	-0.57
Nebraska	Hitchcock	13.55	44,626	Valley	20.08	52,605	1.48	-0.04
Nevada	Douglas	5.83	245,171	Mineral	11.08	67,672	1.90	-0.37
New Hampshire	Carroll	13.03	163,378	Cheshire	23.75	122,305	1.82	-0.63
New Jersey	Cape May	14.30	184,082	Camden	27.42	126,809	1.92	-0.52
New Mexico	Taos	2.85	184,916	Bernalillo	7.75	150,720	2.72	-0.22
New York	Kings	6.38	277,165	Onondaga	27.66	101,223	4.34	-0.54
North Carolina	Clay	3.84	139,518	Cumberland	11.02	106,439	2.87	-0.21
North Dakota	Renville	10.24	50,383	Hettinger	19.37	35,073	1.89	0.26
Ohio	Morgan	6.91	73,746	Franklin	14.63	140,125	2.12	0.55
Oklahoma	Latimer	4.24	52,509	Tulsa	9.92	111,552	2.34	0.58
Oregon	Tillamook	6.96	177,083	Wasco	12.40	122,467	1.78	-0.25
Pennsylvania	Juniata	6.28	95,987	Allegheny	20.50	106,438	3.26	-0.01
Rhode Island	Washington	14.35	198,917	Kent	19.10	143,336	1.33	-0.71
South Carolina	Chesterfield	3.56	75,536	Allendale	7.67	62,892	2.15	-0.04
South Dakota	Shannon	10.01	66,926	Perkins	22.86	46,785	2.28	-0.47
Tennessee	Sevier	2.89	132,762	Shelby	10.46	127,129	3.62	0.15
Texas	Somervell	6.43	118,255	Fort Bend	23.02	141,122	3.58	0.09
Utah	Wasatch	4.57	230,448	Salt Lake	7.23	190,441	1.58	-0.06
Vermont	Essex	13.94	78,056	Washington	19.79	118,655	1.42	-0.07
Virginia	Mecklenburg	4.15	99,067	Manassas Park	12.58	136,509	3.03	0.27
Washington	San Juan	5.92	387,736	Franklin	12.46	123,393	2.10	-0.42
West Virginia	Pocahontas	3.18	83,205	McDowell	6.85	29,718	2.16	0.08
Wisconsin	Vilas	10.59	155,912	Milwaukee	24.10	120,209	2.27	-0.09
Wyoming	Carbon	4.75	89,407	Big Horn	7.21	82,074	1.52	-0.30

Source: U.S. Census Bureau: 2000 Census of Population and Housing.

large share of the burden for local government finances in Michigan from the property tax to the sales tax.

Although average home values do not explain very much of the differences in tax rates across states in 2000, they do explain some of the changes that took place within individual states between 1990 and 2000. In fact, the correlation between the change in effective property tax rates and the change in average home values in Table 1 is as strong as the correlation between the 2000 rates and property taxes as a share of local government revenue. When home values are rising (or new, more expensive homes are

being added to the tax base), local governments can continue to generate the same level of revenue with lower effective tax rates. Between 1990 and 2000 average home values increased by the greatest percentage in Oregon, the state that makes the most comprehensive use of urban growth boundaries. Oregon also experienced a drastic reduction in effective property tax rates over that time. Property tax rates in Oregon were initially capped in 1990 under Measure 5. Measure 5 was considered ineffective by many Oregon residents, however, whose property tax payments continued to escalate as the value of their homes appreciated. This led to Measure 47, which froze property tax payments at their 1995 levels irrespective of subsequent changes in property values.

In 1990, the five states with the highest effective tax rates were Wisconsin, Michigan, South Dakota, Oregon, and Nebraska. Between 1990 and 2000, all those states experienced an increase in average of home values of over 80 percent—and by 2000 all had fallen off the top-five list except for Wisconsin, which dropped from first to third. Meanwhile, New Jersey, New Hampshire, New York, and Vermont moved onto the top-five list—all states that experienced very small increases in average home values (less than 21 percent, cumulatively) over the previous decade.

Differences Within States

Table 2 shows the counties with the highest and lowest average property tax rates in each state, as well as the ratio between the highest and lowest rates, the average property values in those counties, and the correlations between county tax rates and county property values (based on counties with at least 500 specified owner-occupied housing units). In the U.S., the county with the highest effective average rate is Onondaga, New York (the county containing the city of Syracuse), with a rate of $27.66 per $1,000 of value. The lowest is Assumption Parish in nonmetropolitan Louisiana ($1.21 per $1,000).

The negative correlation between average property tax rates and average home values is generally much stronger within states than between them. Statistically, over half of the variation in property tax rates among counties can be explained by a simple model with average county home values, statewide property taxes as a share of local government revenue, and statewide local government spending per household. However, several states actually show a positive correlation between property tax rates and home values—especially Oklahoma, Ohio, Illinois, and Kentucky. These states all contain metropolitan counties with property tax rates that are significantly higher than in nonmetropolitan counties, suggesting metro/nonmetro differences in the way local services are provided and funded.

As mentioned, 2000 Census data permit the computation of effective property tax rates for areas as small as census tracts. Because they are so small, it's important to interpret the numbers with caution, and to remember the caveats about owners' estimates of home values and tax payments.

Readers can view average property tax rates and property values for every county and metro area in the country (as well as the highest and lowest rates among tracts in each county and metro area) and for places (most of which are incorporated cities or towns) with at least 50 specified owner-occupied housing units on NAHB's web sitePlease visit www.builderbooks.com/subscribers, sign-in, then click on the link to Housing Economics. Go to "Selected Articles" to find all supplementary materials and feature articles.

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[1] Paul Emrath, "Home Vintage and Operating Costs," *Housing Economics,* November 1997.

[2] D.E. Black, "The Nature and Extent of Effective Property Tax Rate Variation Within the City of Boston," *National Tax Journal*, 1972.

[3] Dong Hoon Chun and Peter Linneman, "An Empirical Analysis of the Determinants of Intrajurisdictional Property Tax Payment Inequities" *Journal of Urban Economics*, 1985.

[4] David Figlio, "Short-Term Effects of a 1990s-era Property Tax Limit: Panel Evidence of Oregon's Measure 5" *National Tax Journal,* 1998.

[5] Katherine Kiel and Jeffrey Zabel, "The Accuracy of Owner-Provided House Values: the 1978-1991 American Housing Survey," *Real Estate Economics*, 1999.

[6] Charles Wolters and Henry Woltman, 1970 Census: Preliminary Results Memorandum No 48, U.S. Census Bureau, Statistical Methods Division, 1974.

[7] A.C. Goodman , "Capitalization of Property Tax Differentials Within and Among Municipalities," *Land Economics 1983*. See also R. Dusansky, M. Ingber and N. Karatjas "The Impact of Property Taxation on Housing Values and Rents," *Journal of Urban Economics*, 1981. Elliot Eisenberg, "Real Property Assessment Literature Review & Inquiry into Assessment Quality in the City of Syracuse" Chapter 7 of Intrajurisdictional Property Tax Capitalization Rates, Ph.D. dissertation, Syracuse University, 1996.

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