taxanalysts special report

Alternative Approaches To Reinstating A Taxable Property Values Survey

by Robert P. Strauss

Robert P. Strauss is a professor of economics and public policy, Carnegie Mellon University.

This report is a revised version of a paper prepared for the 101st Annual Conference of the National Tax Association, held November 21 in Philadelphia. It will be published in the conference proceedings and is published here with the NTA's permission.

The author benefited from conversations on this subject with Henry Wulf of the Rockefeller Institute of Government, Alan Dornfest of the Idaho State Tax Commission, Kurt Usowski of the U.S. Department of Housing and Urban Development, Lisa Blumerman of the U.S. Bureau of the Census, and Yolanda Kodrzycki of the Federal Reserve Bank of Boston. The author also wants to thank Radar Logic of New York City and First American Real Estate for providing information in electronic form, and Celeste M. Strauss for preparation of figures 1-6 . The author takes sole responsibility for the report's contents.

1. Introduction

Although property taxes have always been important to the financing of U.S. local governments, those taxes and the underlying assessment of real estate have never been popular in the United States.[1] For the past 20 years, property taxes have constituted about 30 percent of general state and local tax collections, and much higher proportions of just local finance. As of the close of June 2008, annual property tax collections were $404.5 billion — more than state and local sales and use tax collections and more than state and local individual income tax collections.[2]

Although the property tax has remained sizable and unpopular, we know far less today on a systematic basis through publicly funded statistical agencies about the details of it than we used to.[3] In 1987 the Governments Division of the U.S. Bureau of the Census stopped collecting and publishing state-by-state descriptions of the legal and institutional environment surrounding the collection of the property tax, and in 1982 it stopped collecting and publishing statistics on local taxable property values or sales price ratios. The collection of the latter was begun initially as a series of special studies in the 1940s, and later became an integral part of its quinquennial *Census of Governments*[4] over 1957-1982.[5]

In 1999, 19 members of the Committee on Property Taxation of the National Tax Association wrote to the Census Bureau[6] requesting reinstatement of the taxable property value studies. However, Census Bureau Director Ken Prewitt and later directors have declined to reinstate the taxable property values measurement and report. During its deliberations in 2007, the National Research Council (NRC) panel was told that reinstating the taxable property values report would cost $26 million, or more than the Governments Division's overall budget. Although the panel was aware of the tight budgetary environment

[1]*See, for example*, Fisher (1996).

[2]*See* U.S. Bureau of the Census, Quarterly Summary of State and Local Government Tax Revenue, Table 1, *available at* http://www.census.gov/govs/www/qtax.html.

[3]The void created by the Census Bureau has been widely noted, and efforts have been made to keep track of aspects of property tax administration and property tax statutes. *See* Dornfest and Thompson (2004), and the ambitious work of the George Washington Institute of Public Policy (2007) funded by the Lincoln Land Institute. Also, the Nelson A. Rockefeller Institute of Government has long published Governments Division data in readily accessible formats and has collected and published timely state revenue reports. *See* http://www.rockinst.org/government_finance/.

[4]*See* U.S. Department of Commerce, Bureau of the Census (1941), "A Decade of Assessed Valuations: 1929-1938," State and Local Government Special Study No. 14.

[5]*See* Title 13, section 161 of the U.S. Code, which directed the Census Bureau to collect "data on taxes and tax valuations . . . of states, counties, cities and other governmental units." A 1987 taxable property values and sales ratio volume was prepared with the 1987 Census of Government, but was never publicly released.

[6]*See* National Research Council (2007), Appendix C.

Table 1.
Governments Division 2005-2006 and 1997 Data Collection Structures

Type	2005-2006 Sample Count	2005-2006 %	2005-2006 Sample Weight Range	1997 Census of Governments Universe	Count / Universe
0-State	50	0.2%	1	50	1
1-County	1,736	6.6%	1 to 50	3,043	57.0%
2-Municipal	2,895	11.1%	1 to 50	19,372	14.9%
3-Township	2,125	8.1%	1 to 50	16,629	12.8%
4-Special District	4,589	17.6%	1 to 50	34,683	13.2%
5-Independent School Districts	14,718	56.4%	Universe for NCES	13,726	107.2%
Total 2005-2006	26,113	100.0%		87,503	29.8%
Sampled Units	11,395				

facing the Census Bureau generally, and the Governments Division in the Economic Directorate,[7] the panel recommended that the division consider how to implement "a program of research and testing to explore conceptually sound and cost-effective means of collecting these data."[8]

The Census Bureau's budget has become even tighter since the release of the panel report in the fall of 2007, largely because the cost of the decennial census has risen dramatically.[9] It is beyond the scope of this report to do a cost-effectiveness analysis of spending $11.3 billion in 2010 to count about 305 million Americans compared with spending $26 million to measure the taxable values of perhaps 100 million taxable properties in the nation,[10] but the difference between investing scarce statistical budgets at rates of $37 per person and 26 cents per taxable parcel — 142 to 1 — is striking.[11]

My purpose is to investigate ways that taxable properties, assessed values, and sales ratios could be more efficiently measured and reported, and in particular how one might take advantage of existing state measurement efforts and third-party collections of local electronic property and deed transfer records that have become increasingly available through commercial sources. To frame this discussion, I first describe in section 2 the activities of the Governments Division, what was captured by the Governments Division in its last efforts to measure taxable values, and the problems it encountered. Section 3 discusses strategies that would use existing public measurement and administrative systems and third-party electronic records to inexpensively characterize real estate underlying assessments and their uniformity, and issues that would have to be resolved. Section 4 concludes.

2.0 Activities of the Governments Division Regarding Real Estate Taxation

The Governments Division collects a wide variety of data on the federal government, the states, and their general, single-function local governments and authorities. Revenue including property tax collections, expenditures, and employment data are measured annually; tax revenue and retirement systems data are measured quarterly. Every five years, enumeration of spending and revenue of all state and local governments occurs through the Census of Governments. For its quarterly and annual collection efforts, the division relies on a sampling of major general governments and special districts, enumeration of finances of all independent and dependent school districts for the National Center for Educational Statistics. Data for its quarterly survey of property tax collections, Form F71, are obtained electronically through a controlled Web site and through postal mailings.[12] Table 1 displays the range of weighting used by type of annually sampled governmental entities in 2005-2006 and compares

[7]Over the past several years, the Governments Division's share of the Census Bureau's Economic Directorate, which is charged with measuring the U.S. economy, has been about 6.8 percent, although it is responsible for measuring 11 percent of public and private employment and about 11 percent of GDP.

[8]*See* Recommendation 3-4 in NRC(2007) at p. 7.

[9]Government Accountability Office (2008) reports that the accrued cost of the 2010 Census will now be $11.3 billion or about $37 per person.

[10]*See* Table 7 of U.S. Department of Commerce, Bureau of the Census (1982), Table 7, p. 13, which reports 98.4 million taxable properties in 1982.

[11]Of course, performing the decennial census responds to a constitutional obligation, while measuring taxable properties responds to only a federal statutory obligation in the U.S. Code.

[12]*See* http://harvester.census.gov/sgf/f71/.

them with those in 1997. Note that the number of enumerated independent school districts has grown and that about 11,400 other local units are sampled each non-Census year.

Beginning in 1987, the sample design of the annual finance and annual employment surveys has been focused on achieving reliable estimates of key indicators at the state level, but not for every county area in the nation.[13] National estimates of quarterly property tax collections have been continuously collected and reported by the Governments Division since 1962 and are used by the Bureau of Economic Analysis in the gross domestic product accounts. Also, national, state, and local estimates of property tax collections are released annually.

2.1 The Framework of the Governments Division Taxable Property Values Studies in 1982

The *1982 Taxable Property Values and Assessment Sales Price Ratios (TPV)* presented a wide variety of state, metropolitan, and local information that can be roughly divided into three categories and is summarized as follows:

- *Legal framework:* A detailed state-by-state review of state assessment statutes and assessment administration dealing with realty and tangible personal property, and a detailed state-by-state review of mechanisms to provide preferential treatment through classification, exemption, exclusion, and preferential rates;[14]
- *Property stock measurements:* Measurement of the gross and net assessed value of realty at the state, regional, and metropolitan area and local levels; measurement of realty by type of use and tax status; measurement of property tax collections;[15] and
- *Property flow and assessment uniformity:* Measurement of real property sales activity during a six-month period in 1981; state, regional, and selected local area measurement of median assessment to sales price ratios (A/V); development of estimated fair market values across states; state, regional, and selected local area measurement of the variability of A/V through the reporting of coefficients of dispersion of single-family, nonfarm properties and price-related differentials; and tallying of various financing schemes (fixed, variable rate mortgages, points to buyer, and so forth) associated with each transaction.[16]

Many of the resulting 28 tables could be compared with earlier taxable property value studies. So, for example, we learned that total gross assessed value of real and personal property grew from $280.2 billion in 1956 to $2,958.2 billion in 1981 for the continental United States, while total net assessed value grew from $272.2 billion in 1956 to $2,837.5 billion in 1981.[17] The number of parcels grew from 61 million in 1956 to 98.4 million in 1981. Across that period, acreage and farms declined from 23.2 percent of total parcels to 15 percent of total parcels.[18] Equally valuable to those interested in the evolution of assessment standards and practices was the historical commentary that informed on such topics as the growth of classification, assessment organization, and administration.

Unlike state and local individual income taxation, which largely relies on the Internal Revenue Code and extensive information sharing between state revenue agencies and the Internal Revenue Service,[19] state real and personal property assessment and taxation laws and practices are heterogeneous and do not benefit from a comparable federal tax. Thus, the development of meaningful interstate and interarea comparisons of assessed values on a comparable, fair market value basis requires much original research. *TPV* admirably documented its definitions and classifications, its methods, and the statistical reliability of its sample estimates.

Perhaps the most difficult, controversial, and important task performed by *TPV* has been the comparison of assessed value to recent arm's-length sales price of representative samples of all types[20] of locally assessed properties. Using a two-stage sampling procedure that ensured that sales price was compared with an earlier assessment, the Governments Division measured A/V for states, standard metropolitan statistical areas, counties, and relatively populous minor civil divisions. In areas with no electronic records, Census field enumerators went into local county assessment and title offices and used sampling schemes to obtain samples of

[13]*See* U.S. Bureau of the Census (2003), "The History of Sample Design for the Annual Finance and Employment Surveys 1987-2003."

[14]*See TPV* appendices A through D as well as E and F, which contain standard definitions and survey forms, and Table E at page xvi.

[15]*See TPV* tables.

[16]Reported sales prices were not adjusted by reported financing mechanisms.

[17]*See* Table A, *TPV.*

[18]*See* Table D, *TPV*.

[19]*See* Strauss (1997) for an extensive discussion of what has evolved into coadministration of the state and local individual income tax in the context of proposals to move the federal tax system to some sort of consumption tax.

[20]Nonfarm residential property, single-family houses, acreage, vacant plotted lots, commercial and industrial property, and other and allocable. *See* Table 21 of *TPV.*

transactions that reliably reflected the *size distribution* of values. However, no data were collected on residential properties with sales prices over $3 million.

The measured variation in assessment uniformity was remarkable and perhaps discomforting. For example, in Pennsylvania, one finds that in 1981 the city of Philadelphia had 537,400 parcels with a gross assessed value of $5.855 billion, a median A/V of 26.2 percent, and a coefficient of dispersion of 59.1[21] Allegheny County, Pa., with 483,467 parcels and a gross assessed value of $5.634 billion, had a median assessment ratio of 21.4 and a coefficient of dispersion of 38.2 percent.[22] Both dispersion coefficients were well beyond 20.0, the best practice recommendation of the International Association of Assessing Officers, and both independently measured assessment ratios were lower than those adopted statutorily.

Measurement of assessed value and sales price is difficult because not all states and localities use a simple system in which a single county or township assessor assesses property for county, municipal, and school real estate tax purposes. In 1982 the District of Columbia and 30 states fit into that simplified category; however, the other states' systems were more complex because either more than one assessor performed assessments for a particular area, or the assessed values reflected material adjustments because of classification, exemption, or differential assessment or tax rates. *TPV* accomplished comparable measurement by using the officially determined assessed value before deductions of any exemptions used for official tax determination purposes. However, consider Iowa:

> In 19 among Iowa's 99 counties, a city assessor provides assessed values, for city and county purposes, for properties within the respective cities. Moreover, all assessed values in Iowa incorporate the effects of two types of factors. One implements whichever county equalization orders apply to affected use categories in the particular county, the other effects "rollback adjustments" prescribed by the State.[23]

Another set of complexities arose because of California's Proposition 13, which froze assessments at a base year of 1975, but adjusted assessments on later sale as measured by the resulting cash price. *TPV* declined to report median assessment ratios and dispersion coefficients for California because of the obvious nonuniformity. Because of the growing number of states and areas that use some form of the base year approach to assessment or that limit the growth in assessed values in their translation to taxable values, it's important for public policy purposes to determine whether the calculation of assessed to sales ratios is informative. However, even though there may be compelling equity arguments for those limitations, there remain valid arguments for estimating and reporting the fair market value of the stock of realty in each state and locality and also measuring the variability in assessment outcomes so that those who impose limits on the application of the local property tax can systematically calculate the effect of those policies.

The presentation of reliable data on sales ratios across states and metropolitan areas conveyed important interjurisdictional information to tax administrators.

Although consistent measurement of sales ratios and their uniformity within and across the states is difficult and time consuming, their independent measurement by Census, which has the statutory authority to request cooperation both from governmental units and parties transacting real property,[24] has had several uses. First, it has made it possible to independently check the efficacy of state efforts to equalize the burden of property taxation, to determine the extent to which state-by-state assessment standards are being met, and to check on the accuracy of mass appraisal reassessments. Those ratios can also be material in the practical application of taxpayer appeals, and they have standing in legal proceedings. Historically, the presentation of reliable data on sales ratios across states and metropolitan areas conveyed important interjurisdictional information to tax administrators and elected officials who rely on the real estate tax to fund local services.

The practical application of the *TPV* measurement method entailed use of local electronic records on assessments from local assessing offices and of electronic records on arm's-length transactions from deed transfer and transfer tax records. In some states, the transfer of ownership triggers application of an excise tax on the value of the transaction, and

[21]*See* Table 21, pp. 178-9.
[22]*Id.,* pp. 182-3.
[23]*TPV xxvi.*

[24]On creating a sample of transactions, the *TPV* measurement process then elicited from either the buyer or seller, through Form GP-31, confirmation of the description of the property transferred, the size of the parcel, the use of the land and improvements, the nature of the financing associated with the transaction, and the nature of the sale (ordinary sale, foreclosure, sale between relatives, etc.).

typically is subject to disclosure and often an affidavit from the buyer as to what was paid.[25]

3.0 Strategies for Improving Our Knowledge of Assessed Values, Sales Ratios, and Their Variability

Governmental and Third-Party Electronic Sources and Issues Estimating the value of real and personal property is of interest beyond those persons curious about federal statistics. Indeed, one can argue that the financial crisis in world capital markets is the result of unrealistic appraisals of real estate that were created to justify the lending of mortgages and the development of fees for mortgage placements. Private, for-profit lending institutions, institutions such as the Federal National Mortgage Association and the Federal Home Loan Mortgage Corp., which were supposed to assist low-income homeowners and increase the liquidity of the mortgage market, and federal institutions such as the Federal Housing Authority, which were also supposed to assist low-income homeowners, have all been involved in devising models that predict the underlying value of real estate on the basis of sales prices and physical characteristics. Such appraisal models have much in common with those used for computer-assisted mass appraisal typically used in reassessment. Of course, appraisal to support a loan application is different from appraisal for the creation of an assessed value for tax administration purposes. The former serves the immediate interest of the loan originator, the buyer, or the owner, and the latter is a subsequent disadvantage to the buyer, and the owner because it can raise the tax bill until the next reassessment. However, fairness in taxation and the resulting confidence in government are important.

Independent ratio studies can analyze assessment performance, evaluate computer-assisted mass appraisal models, and identify shortcomings and weaknesses in assessment practices. As is generally understood, ratio studies that are not based on representative areas, values, and types of properties can yield misleading information and lead to misdirected policy changes.

3.1 Using Existing State Sales Ratio Studies

Dornfest and Thompson (2004) report that in 2003, 41 states and the District of Columbia reported performing annual sales ratio studies; that was the same number as in 1997. A central ingredient in any sales ratio study is the comparison of a disclosed arm's-length sales price to historical assessed value. Three forms of disclosure are reliable: full mandatory sales price disclosure, transfer fees that are based on the sales price, and mandatory recordation of any transfer instrument. As of 2003 only Idaho, Missouri, and Texas required none of those three elements of disclosure. New Mexico enacted disclosure legislation in 2003.[26] Louisiana, Mississippi, and Utah continue to fail to require full disclosure of transfer fees. Forty-three states now use ratio studies to advise and assist in the assessment process, compared with only 35 states in 1994 and 1997.[27] Poor uniformity in assessment, as evidenced by high coefficients of dispersion, can trigger state action of some sort in 34 states, and in 23 it can result in a state order of reappraisal.[28] In 2003, 39 states used the weighted mean A/V in 2003 to determine the level of assessment, while 38 states used the median A/V. Regarding trimming the distribution of A/V before measuring the representative A/V, 35 states say they test for outliers, and 10 states have set limitations on the number of outliers that may be tossed out.[29]

> ***Forty-three states now use ratio studies to advise and assist in the assessment process, compared with 35 states in 1994 and 1997.***

Given that abundance of state sales ratio studies, perhaps the easiest and most inexpensive way to begin to reinstate *TPV* would be to collect, classify, and report the results of those studies for a given year and attempt to put them on a comparable basis. Historically, that characterization and tabulation of state ratio study efforts had been done by the Governments Division in conjunction with preparing its *TPV*.[30]

3.2 Expanding the Partnership With the National Center for Educational Statistics

If Census prefers reviewing actual administrative records of assessments, tax collections, and transactions to simply reinterpreting state sales ratio studies, there are several approaches it could take in connecting to existing flows of administrative information. All but a handful of independent school districts use real property tax revenue, and all are involved in providing annual property tax information to the Governments Division, which collects it on behalf of the National Center for Education

[25] *See* Dornfest and Thompson (2004) for a state-by-state tabulation of state ratio study practices in 2003.

[26] *Id.,* p. 34.
[27] *Id.,* p. 35.
[28] *Id.,* p. 37.
[29] *Id.,* p. 37.
[30] *See, for example*, U.S. Department of Commerce, Bureau of the Census (1972, 1980).

Statistics (NCES) of the U.S. Department of Education. In particular, Form F-33, Part 1, Section A, Line 1 specifies "Property taxes." That is a long-time and ongoing collection effort, and NCES is a large, well-funded statistical agency that routinely studies school finance. Because property tax collection is inherently based on the measurement of assessments and the application of exemption or tax forgiveness schemes to move from assessed to taxable values to tax collections, it follows that every school district in the nation knows its property tax base and, either through its own, contracted, or delegated agent, has a set of tax roll records that must include underlying assessment records.[31]

I propose adding to Form F-33, the annual survey of school systems, two additional lines: "Gross Assessed Value" and "Gross Assessed Value of Taxable Properties." The instructions portion of the form would require a few sentences to define those terms.

Nationwide data on the assessed and taxable values of real property could be collected annually at little added expense.

From a data collection perspective, that means that with some relatively minor adjustments to current survey forms, nationwide data on the assessed and taxable values of real property could be readily collected annually at little added expense. It is likely that for most school districts, that data could also indicate the totals by use of the property.

As those who study governmental accounting rules know, NCES is the standard setter for school district accounting. Heterogeneity in definitions of property use, classification, and nomenclature surrounding types of property exemption schemes could be the subject of NCES consideration and pronouncements over time so that local assessed base measurement could be more systematic and comparable across states. It's an open question whether NCES could accomplish those changes in data collection and survey forms by adding to its measurement of school finances characteristics of the school finance property tax base without statutory or regulatory changes. It is likely that the change in survey form and associated instructions would require the approval of the Office of Management and Budget. Under this approach, most of the collection cost would be borne by respondent school districts rather than by Census field data collectors.

Using school districts as data collection sources does not directly address how sales and arm's-length price information could be obtained and transmitted. Because school districts do not maintain deed records and may not share in transfer tax proceeds, they may not have readily available sales and price information on an individual, parcel-by-parcel basis. It may be feasible, however, for each school district to report the aggregate value of new construction as reflected in the sales prices of land and improvements in a calendar year, and it may be feasible for each school district to report the aggregate value of all sales and the aggregate value of their gross assessments of taxable properties. From that aggregate information one could construct the ratio of total assessed value to total sales value and thus measure an overall average sales ratio.

3.3 Federal Administrative Records Measure Sales and Market Values

The federal government is involved in real estate transactions in several different ways: through federal taxation of income deriving from the sale or exchange of real estate, and through various kinds of regulatory roles in the settlement and mortgage financing process. Unfortunately, none of those mechanisms now provide information that the Census Bureau could readily use to estimate gross or net assessed values, taxable values, or the variation in the ratio of assessed value to sales prices.

Since the early 1970s the IRS has been statutorily required to give its individual income tax master data file to the Census each year. Census uses that tax return information for the construction of population and income estimates for small areas and to measure migration. County-to-county migration data are available to researchers through the IRS Statistics of Income Division and have been used for years by demographers and those who want to follow population and income movements.

Historically, sellers of real property have been required for federal tax purposes to report gross proceeds from the sale or exchange of land, permanent structures, and condominium units, including permanent improvements or stock in a cooperative housing corporation. But Census does not receive the full 1099-S, and the full 1099-S does not require the reporting of the location of property, its use, or its assessed or taxable value. Transactions involving the sale or exchange of a principal residence for $250,000 or less ($500,000 or less for married filing jointly) need not be reported. Thus, even if the 1099-S were revised to collect location and parcel identification information, a statistical agency would be unable to readily derive A/V for properties

[31]It is also reasonable to assume that each local school district knows its property tax collection rate that could be collected as additional information for publication; however, the first priority I suggest would be collecting data on gross assessed value and gross assessed value of taxable properties. Care must be exercised, of course, in accounting for overlapping school districts by grade level, such as in California, to avoid double counting.

Table 2.
Electronic Records Coverage
Fraction of Counties by State With
Property Tax Roll Offices and Deed Transfer Offices
Whose Data Were Collected Electronically in 2004

	Coverage of Tax Rolls		Coverage of Deed Transfers			Coverage of Tax Rolls		Coverage of Deed Transfers	
State	Not Covered (%)	Covered (%)	Not Covered (%)	Covered (%)	State	Not Covered (%)	Covered (%)	Not Covered (%)	Covered (%)
AK	88.9	11.1	88.9	11.1	NC	20.0	80.0	76.0	24.0
AL	14.9	85.1	92.5	7.5	ND	81.1	18.9	54.7	45.3
AR	22.7	77.3	73.3	26.7	NE	97.9	2.2	95.7	4.3
AZ	0.0	100.0	0.0	100.0	NH	100.0	0.0	0.0	100.0
CA	0.0	100.0	0.0	100.0	NJ	0.0	100.0	0.0	100.0
CO	59.4	40.6	57.8	42.2	NM	69.7	30.3	78.8	21.2
CT	0.0	100.0	0.0	100.0	NV	17.7	82.4	35.3	64.7
DC	0.0	100.0	0.0	100.0	NY	0.0	100.0	0.0	100.0
DE	33.3	66.7	33.3	66.7	OH	18.2	81.8	35.2	64.8
FL	0.0	100.0	0.0	100.0	OK	1.3	98.7	87.0	13.0
GA	55.4	44.7	81.1	18.9	OR	36.1	63.9	47.2	52.8
HI	0.0	100.0	0.0	100.0	PA	25.4	74.6	67.2	32.8
IA	6.1	93.9	88.9	11.1	RI	0.0	100.0	0.0	100.0
ID	88.6	11.4	81.8	18.2	SC	45.7	54.4	56.5	43.5
IL	68.6	31.4	80.4	19.6	SD	98.5	1.5	100.0	0.0
IN	92.4	7.6	92.4	7.6	TN	1.1	99.0	0.0	100.0
KS	1.9	98.1	93.3	6.7	TX	44.1	55.9	81.1	18.9
KY	70.0	30.0	95.8	4.2	UT	51.7	48.3	58.6	41.4
LA	26.6	73.4	95.3	4.7	VA	52.2	47.8	81.3	18.7
MA	0.0	100.0	0.0	100.0	VT	71.4	28.6	0.0	100.0
MD	0.0	100.0	0.0	100.0	WA	43.6	56.4	38.5	61.5
ME	81.3	18.8	100.0	0.0	WI	33.3	66.7	0.0	100.0
MI	14.5	85.5	83.1	16.9	WV	0.0	100.0	3.6	96.4
MN	74.7	25.3	79.3	20.7	WY	87.0	13.0	91.3	8.7
MO	91.3	8.7	91.3	8.7					
MS	40.2	59.8	48.8	51.2	**Total U.S.**	**1301**	**1835**	**2060**	**1076**
MT	0.0	100.0	71.4	28.6	**U.S. %**	**41.5%**	**58.5%**	**65.7%**	**34.3%**

Source: Author's tabulations of 2004 coverage report by First American Real Estate Inc.

sold state by state because the information does not reflect the assessed value or location.

The HUD-1 settlement statement that accompanies all residential real estate transactions would appear to be another administrative form of interest, because it contains the date, property description, and details of what the buyer and seller transact in terms of cash and other considerations. The data have, however, several limitations. First, HUD-1 is not put into machine-readable form in its entirety. Second, information about annual real estate gross and net assessment, and taxes due for county, municipal, and school purposes are not recorded. Accordingly, for those forms to become useful electronic information, the Department of Housing and Urban Development would have to commit to first alter the form to contain the information that would then feed into *TPV*, and then it would have to invest in putting all the information on the settlement form into a database. Even if those two steps

Table 3.
Electronic Records Coverage
Weighted by 2005-2006 Census County Area Population
Fraction of Counties by State With
Property Tax Roll Offices and Deed Transfer Offices
Whose Data Were Collected Electronically in 2004

Coverage of Tax Rolls			Coverage of Deed Transfers		Coverage ofTax Rolls			Coverage of Deed Transfers	
State	Not Covered (%)	Covered (%)	Not Covered (%)	Covered (%)	State	Not Covered (%)	Covered (%)	Not Covered (%)	Covered (%)
AK	41.1	58.9	41.1	58.9	NC	12.6	87.4	43.7	56.3
AL	15.9	84.1	68.3	31.7	ND	56.4	43.6	26.9	73.1
AR	15.4	84.6	44.5	55.5	NE	58.3	41.7	50.0	50.0
AZ	0.0	100.0	0.0	100.0	NH	100.0	0.0	0.0	100.0
CA	0.0	100.0	0.0	100.0	NJ	0.0	100.0	0.0	100.0
CO	8.8	91.2	7.7	92.3	NM	31.9	68.1	39.7	60.3
CT	0.0	100.0	0.0	100.0	NV	5.6	94.5	2.8	97.2
DC	0.0	100.0	0.0	100.0	NY	0.0	100.0	0.0	100.0
DE	20.0	80.0	20.0	80.0	OH	4.4	95.6	10.7	89.3
FL	0.0	100.0	0.0	100.0	OK	1.2	98.9	45.3	54.7
GA	26.2	73.8	41.7	58.3	OR	4.7	95.3	8.4	91.6
HI	0.0	100.0	0.0	100.0	PA	8.9	91.1	26.1	73.9
IA	10.4	89.6	61.6	38.4	RI	0.0	100.0	0.0	100.0
ID	49.0	51.0	36.7	63.3	SC	22.7	77.4	24.9	75.1
IL	16.8	83.2	18.6	81.4	SD	97.1	2.9	100.0	0.0
IN	61.7	38.3	61.6	38.5	TN	0.3	99.7	0.0	100.0
KS	2.4	97.6	45.7	54.3	TX	9.1	90.9	22.1	78.0
KY	50.7	49.3	73.6	26.4	UT	10.1	89.9	7.5	92.5
LA	9.6	90.4	79.4	20.6	VA	31.0	69.1	38.9	61.2
MA	0.0	100.0	0.0	100.0	VT	65.0	35.0	0.0	100.0
MD	0.0	100.0	0.0	100.0	WA	10.4	89.6	6.0	94.0
ME	73.4	26.6	100.0	0.0	WI	10.9	89.1	0.0	100.0
MI	5.5	94.5	33.8	66.2	WV	0.0	100.0	12.6	87.4
MN	35.2	64.8	30.6	69.4	WY	66.3	33.7	70.0	30.0
MO	43.4	56.6	43.3	56.8					
MS	25.1	74.9	27.2	72.8	**Total Pop.**	**3.374E+07**	**2.477E+08**	**5.597E+07**	**2.255E+08**
MT	0.0	100.0	42.0	58.0	**% Share**	**12.0%**	**88.0%**	**19.9%**	**80.1%**

Source: Author's tabulations of 2004 coverage report by First American Real Estate Inc.

were taken, there would still be no information about the nonresidential sectors of the real estate markets.

3.4 Third-Party Data Sources on Tax Rolls and Deed Transfers

As noted earlier, banks and other financial institutions have an interest not only in the price at which a property they are financing transacts, but also in the taxes being levied on the property and the assessed value. Carrying costs of residential property involve the sum of the mortgage, insurance, and taxes, and they are considered when reviewing the loan application in conjunction with the financial position of the buyer or borrower. Assessed values are of interest not only for tax determination purposes but also as checks on the appraisals that typically accompany the determination of the loan amount.

The private need for that information in reliable form has led to the emergence of real estate data brokers who buy, process, and sell the information and related real estate services to lending institutions. Many of those data brokers are subsidiaries of regional and national title companies that historically have performed title searches along with the

due diligence required in settling a real estate transaction. Related to such original data collection services is a group of organizations that processes and models the resulting data.

One of the largest real estate data brokers is First American Corp. of California, which provides title and settlement services, mortgage services, appraisal and valuation services, screening and risk mitigation, property and ownership information, analytics and modeling, insurance and home warranty information, and investment management. Once a county abstract company, First American now belongs to the *Fortune* 500 and has a subsidiary, CoreLogic, that is devoted to the collection and sale of real estate information.[32] Real estate data brokers routinely collect electronically and also capture paper records and put in electronic form information maintained on tax rolls and information maintained in deed offices throughout the nation.[33] First American is one of several vendors that Fannie Mae uses in the construction of its residential valuation models, which are resold to many commercial lending institutions.

The basic idea here is for Census to either directly purchase the real estate database of tax, assessment, and sales information and construct a *TPV* analysis state by state, or purchase the use of that data from a third-party processor of databases. Unlike the earlier suggestions of relying on state-by-state sales ratio studies or obtaining simple information via school districts, the research project here would be to forgo the historical Census field investigation of tax roll offices and deed offices and simply use what electronic information was available.

The question that arises, given that some states and parts of states are nondisclosure states, would be how much of the U.S. property inventory could be covered from those sources.

Table 2 (p. 253) shows by state the fraction of county areas that are covered by the First American data collection process in terms of tax rolls and deed transfer offices.[34] Overall, 58 percent (about 1,800) of the county areas in the nation are covered through tax rolls, and 34 percent (about 1,100) of the county areas are covered through deed transfers. However, when we weight that county coverage by county population, we find that 88 percent of the U.S. population in terms of tax offices are covered, and 80 percent of the deed transfers are covered (see Table 3. If we instead weight by 2002 county area taxes (county government + all municipal + all school and all other property taxes), we find that 91 percent of the tax roll offices are covered and 87 percent of the deed transfer offices are covered (see Table 4, next page).

Tables 2-4 indicate that coverage will be incomplete in the rural parts of several states. It follows that coverage of some kinds of uses, primarily agricultural, would be weak. Coverage of urban areas and commercial and industrial uses would likely be strong.

Radar Logic Inc. covers the transactions and tax rolls of only 202 county areas. However, because those are major metropolitan areas, they manage to cover 37 percent of areas comprising 37 percent of the U.S. population in 2005-2006 and 46 percent of the total local property tax in 2002 (see tables 5-7, pp. 258-260).

See also the maps in Figures 1-6 (pp. 261-266), which depict data in the tables discussed above.

Although it was beyond the scope of this report to elicit database prices from those two commercial real estate data sources, it seems likely that each would be well below the $26 million that Census believes it would cost to recreate *TPV*. How much analysis and what sort of statistical reliability would result from either approach are important follow-up issues; however, what those coverage calculations suggest is that one could make substantial progress in recreating a *TPV* and would wind up using far more universal information than was available in 1982 or 1987.

4.0 Concluding Remarks

With the demise of the Governments Division's long-time commitment to measure gross assessed, net, and taxable property values and related evidence on the uniformity of the assessment process, much has been lost in what we know about realty in the nation. It is difficult to judge whether an ongoing process of independent sales ratio studies could have better informed policymakers over the last decade about the buildup in property values and its dramatic reversal. What I hope this review has accomplished is to rekindle interest not only in the research and statistical communities, but also in the Census Bureau, in working through in more detail the implications of using existing data collection mechanisms and electronic third parties.

As the federal government grapples with the problems associated with the rapid decline in housing values, it will subscribe to the various commercial data services to keep track of regional housing

---

[32]*See* http://www.firstam.com.

[33]First American was the commercial real estate data source for a Robert P. Strauss and David A. Strauss (2003) study of the fairness of assessments in four urban counties. (See "Residential Real Estate Assessment Fairness in Four Urban Areas, " *State Tax Notes,* Mar. 8, 2004, p. 815, *Doc 2004-625,* or *2004 STT 45-2.)*

[34]Table 2 and later tables compare county-by-county coverage reported to the author by First American in 2004. When population weighting is used, population is from the Census Bureau's estimates for 2005-2006 as reported on the Governments Division's Web site. When property tax weight is used, property taxes refer to Census of Governments (2002) property tax collections (Item Code is T01) as maintained on the Governments Division Web site.

Table 4.
Electronic Records Coverage
Weighted by 2002 County Area Real Estate Taxes
Fraction of Counties by State With
Property Tax Roll Offices and Deed Transfer Offices
Whose Data Were Collected Electronically in 2004

Coverage of Tax Rolls			Coverage of Deed Transfers		Coverage of Tax Rolls			Coverage of Deed Transfers	
State	No (%)	Yes (%)	No (%)	Yes (%)	State	No (%)	Yes (%)	No (%)	Yes (%)
AK	51.0	49.0	51.0	49.0	NC	9.6	90.4	34.2	65.8
AL	12.3	87.7	49.4	50.7	ND	56.0	44.0	26.9	73.1
AR	12.8	87.2	32.7	67.3	NE	55.8	44.2	50.0	50.0
AZ	0.0	100.0	0.0	100.0	NH	100.0	0.0	0.0	100.0
CA	0.0	100.0	0.0	100.0	NJ	0.0	100.0	0.0	100.0
CO	9.0	91.0	8.0	92.0	NM	24.1	75.9	30.4	69.6
CT	0.0	100.0	0.0	100.0	NV	3.0	97.0	2.3	97.7
DC	0.0	100.0	0.0	100.0	NY	0.0	100.0	0.0	100.0
DE	17.0	83.0	17.0	83.0	OH	2.5	97.5	6.3	93.7
FL	0.0	100.0	0.0	100.0	OK	0.5	99.5	34.4	65.6
GA	18.5	81.5	29.5	70.5	OR	2.8	97.2	5.0	95.0
HI	0.0	100.0	0.0	100.0	PA	5.9	94.2	18.0	82.0
IA	11.5	88.5	56.6	43.4	RI	0.0	100.0	0.0	100.0
ID	39.5	60.5	26.5	73.5	SC	19.7	80.3	17.8	82.3
IL	9.7	90.3	11.2	88.8	SD	96.6	3.4	100.0	0.0
IN	54.8	45.2	53.5	46.5	TN	0.2	99.8	0.0	100.0
KS	1.5	98.5	44.5	55.5	TX	6.8	93.2	15.9	84.1
KY	39.4	60.7	60.1	39.9	UT	9.4	90.6	8.9	91.1
LA	9.9	90.1	71.6	28.5	VA	21.8	78.2	23.3	76.7
MA	0.0	100.0	0.0	100.0	VT	67.2	32.8	0.0	100.0
MD	0.0	100.0	0.0	100.0	WA	7.4	92.6	4.3	95.7
ME	71.3	28.5	100.0	0.0	WI	9.0	91.0	0.0	100.0
MI	4.0	96.0	27.9	72.1	WV	0.0	100.0	16.2	83.8
MN	26.5	73.5	23.1	76.9	WY	82.2	17.9	86.5	13.5
MO	30.3	69.7	28.8	71.2					
MS	21.7	79.3	22.0	78.0	**Total $**	**.290E+10**	**2.390E+11**	**3.330E+10**	**2.280E+11**
MT	0.0	100.0	42.5	57.5	**% Share**	**8.7%**	**91.3%**	**12.7%**	**87.3%**

Source: Author's tabulations of 2004 coverage report by First American Real Estate Inc.

prices and to determine if particular mortgage arrangements can be altered to prevent foreclosure. It would seem relatively simple for the new federal oversight authority to work with experts in the Governments Division to enable them to measure and report gross and net assessed values and taxable values and to perform and report sales ratio studies.

Bibliography

Appraisal Foundation (2008). *2008-9 Uniform Standards of Professional Appraisal Practice.* Washington.: The Appraisal Foundation.

Dornfest, Alan S., and Douglas C. Thompson (2004), "State and Provincial Ratio Study Practices: 2003 Survey Results." *Journal of Property Tax Assessment and Administration* 1 (1): 31-70.

Dornfest, Alan S. (2000), "State and Provincial Ratio Study Practices: 1997 Survey Results," *Assessment Journal* 4(6): 23-67.

Fisher, Glenn W. (1996). *The Worst Tax?* Lawrence, Kan.: University of Kansas Press.

Government Accountability Office (2008). *2010: Census. Costs and Risks Must Be Closely Monitored and Evaluated With Migration Plans in Place.* GAO-06-822T

George Washington Institute of Public Policy (2007), "The Property Tax in Fifty States." Property Tax Policy Roundtable and Significant Features of the

Property Tax — A Collaborative Project of the George Washington Institute of Public Policy and the Lincoln Institute of Land Policy. *Available at* http://www.gwu.edu/~gwipp/lincoln/.

Gloudemans, Robert J. (1999). *Mass Appraisal of Real Property.* Chicago, IAAO.

International Association of Assessing Officers. (2007). *Standard on Ratio Studies.* Kansas City, Mo.

National Research Council, Panel on Research and Development Priorities for the U.S. Census Bureau's State and Local Government Statistics Program, Committee on National Statistics, Division of Behavior and Social Sciences (2007). *State and Local Government Statistics at a Crossroads.* (Washington, DC: The National Academies Press.)

Strauss, Robert P. (1997), "Administrative and Revenue Implications of Federal Consumption Taxes for the State and Local Sector," *American Journal of Tax Policy,* 14, 8 (Fall 1997), 361-452. (Reprinted in two parts in *Tax Notes*, Feb. 22, 1999, p. 1173, and *Tax Notes,* Mar. 1, 1999, p. 1343.

"Residential Real Estate Assessment Fairness in Four Urban Counties," with David A. Strauss, *State Tax Notes*, Mar. 8, 2004, p. 815, *Doc 2004-625*, or *2004 STT 45-2* (reprinted from proceedings of the National Tax Association 96th Annual Conference on Taxation, Chicago, November 2003, 298-305).

U.S. Department of Commerce, Bureau of the Census. (1972). *State and Local Ratio Studies and Property Assessment.* Special Studies No. 72. (Washington, D.C.: Bureau of the Census, August 1975.)

U.S. Department of Commerce, Bureau of the Census. (1980). *State and Local Ratio Studies and Property Assessment.* Special Studies No. 99. (Washington, D.C.: Bureau of the Census, August 1980.)

U.S. Department of Commerce, Bureau of the Census. (1982). *1982 Census of Governments. Taxable Property Values and Assessment Sales Price Ratios. Volume 2*. GC82(2). (Washington, D.C.: Bureau of the Census, February 1984.)

Table 5.
Electronic Coverage of Residential Sales Prices by Radar Logic Inc.
Fraction of Counties by State With
Deed Transfer Offices Whose Data Were Collected Electronically in 2008

State	% of County Areas		State	% of County Areas	
	Not Covered (%)	Covered (%)		Not Covered (%)	Covered (%)
AK	100.0	0.0	NC	95.0	5.0
AL	100.0	0.0	ND	100.0	0.0
AR	100.0	0.0	NE	100.0	0.0
AZ	86.7	13.3	NH	80.0	20.0
CA	75.9	24.1	NJ	23.8	76.2
CO	84.4	15.6	NM	100.0	0.0
CT	87.5	12.5	NV	94.1	5.9
DC	0.0	100.0	NY	89.7	10.3
DE	66.7	33.3	OH	85.2	14.8
FL	82.1	17.9	OK	100.0	0.0
GA	82.4	17.6	OR	100.0	0.0
HI	100.0	0.0	PA	91.0	9.0
IA	100.0	0.0	RI	100.0	0.0
ID	100.0	0.0	SC	97.8	2.2
IL	83.3	16.7	SD	100.0	0.0
IN	95.7	4.4	TN	100.0	0.0
KS	100.0	0.0	TX	100.0	0.0
KY	100.0	0.0	UT	100.0	0.0
LA	100.0	0.0	VA	88.8	11.2
MA	64.3	35.7	VT	100.0	0.0
MD	75.0	25.0	WA	92.3	7.7
ME	100.0	0.0	WI	90.3	9.7
MI	92.8	7.2	WV	98.2	1.8
MN	87.4	12.6	WY	100.0	0.0
MO	93.0	7.0			
MS	100.0	0.0	**Total**	**2934.0**	**202.0**
MT	100.0	0.0	**Share**	**93.6%**	**6.4%**

Source: Authors' tabulations of Radar Logic's Coverage as of November 2008

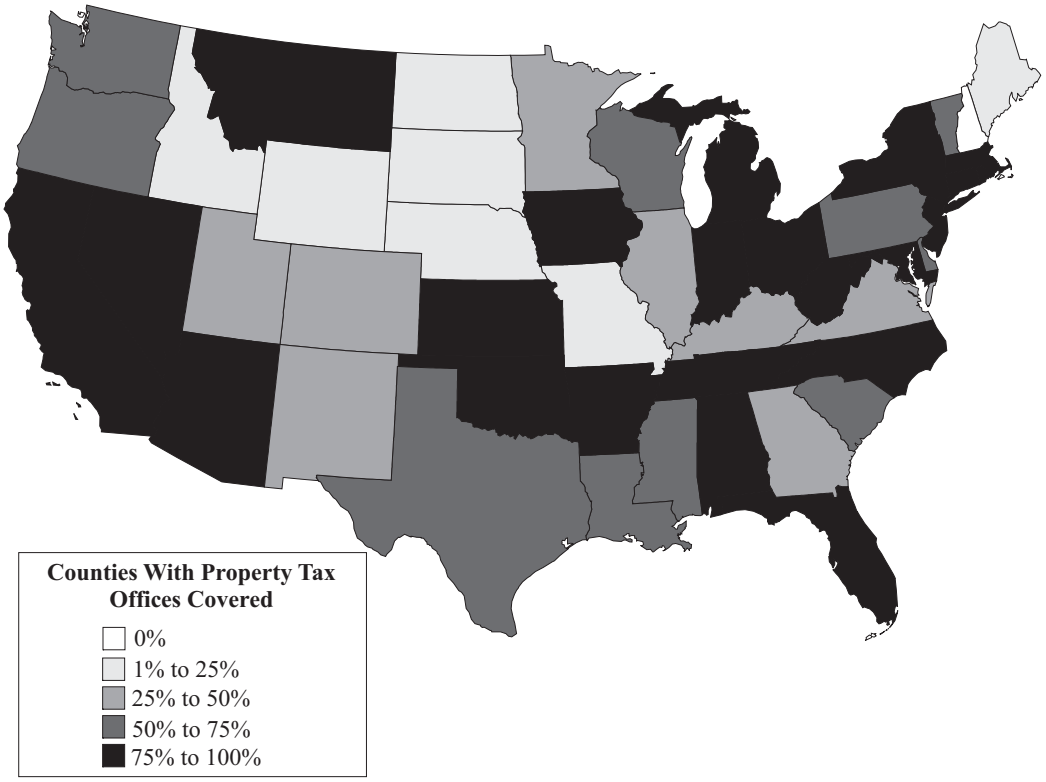
Table 6.
Coverage of Residential Sales Prices
by Radar Logic Inc.
Weighted by Estimated Population in 2005/2006
Fraction of County Areas by State With
Deed Transfer Offices Whose Data Were Collected Electronically in 2008

State	% of County Areas		State	% of County Areas	
	Not Covered (%)	Covered (%)		Not Covered (%)	Covered (%)
AK	100.0	0.0	NC	85.5	14.5
AL	100.0	0.0	ND	100.0	0.0
AR	100.0	0.0	NE	100.0	0.0
AZ	36.6	63.4	NH	68.5	31.5
CA	32.6	67.4	NJ	11.3	88.7
CO	49.4	50.6	NM	100.0	0.0
CT	74.1	25.9	NV	31.2	68.9
DC	0.0	100.0	NY	36.4	63.6
DE	36.2	63.8	OH	66.9	33.1
FL	46.7	53.4	OK	100.0	0.0
GA	48.1	51.9	OR	100.0	0.0
HI	100.0	0.0	PA	68.3	31.7
IA	100.0	0.0	RI	100.0	0.0
ID	100.0	0.0	SC	95.9	4.1
IL	28.0	72.0	SD	100.0	0.0
IN	88.9	11.1	TN	100.0	0.0
KS	100.0	0.0	TX	100.0	0.0
KY	100.0	0.0	UT	100.0	0.0
LA	100.0	0.0	VA	70.1	29.9
MA	37.0	63.0	VT	100.0	0.0
MD	59.4	40.6	WA	48.4	51.6
ME	100.0	0.0	WI	67.4	32.6
MI	55.2	44.8	WV	97.7	2.3
MN	41.7	58.3	WY	100.0	0.0
MO	63.8	36.2			
MS	100.0	0.0	**Total**	**1.7610E+08**	**1.0540E+08**
MT	100.0	0.0	**Share**	**62.6%**	**37.4%**

Table 7.
Electronic Coverage of Residential Sales Prices by Radar Logic Inc.
Weighted by 2002 Real Estate Taxes
Fraction of Counties by State With
Deed Transfer Offices
Whose Data Were Collected Electronically in 2008

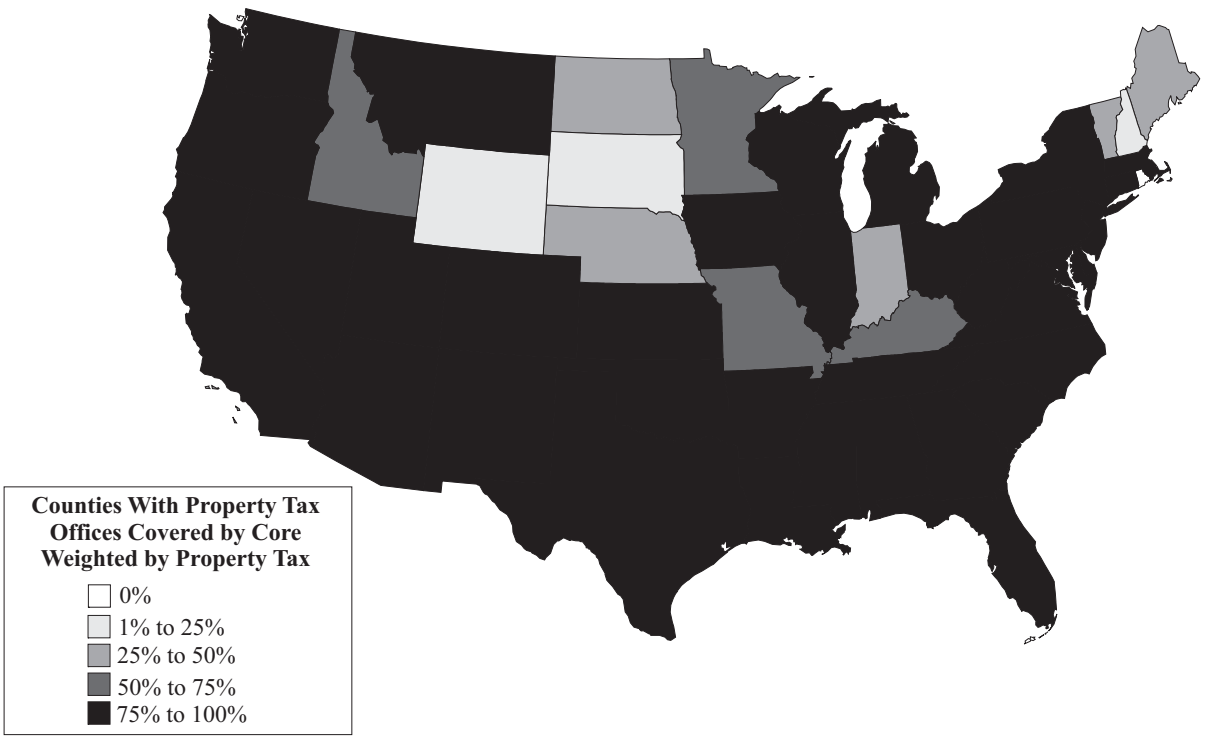
State	% of County Areas		State	% of County Areas	
	Not Covered (%)	Covered (%)		Not Covered (%)	Covered (%)
AK	100.0	0.0	NC	79.0	21.1
AL	100.0	0.0	ND	100.0	0.0
AR	100.0	0.0	NE	100.0	0.0
AZ	33.0	67.0	NH	68.0	32.0
CA	27.4	72.6	NJ	12.4	87.6
CO	47.2	52.8	NM	100.0	0.0
CT	66.0	34.0	NV	28.2	71.8
DC	0.0	100.0	NY	29.5	70.5
DE	27.8	72.2	OH	59.5	40.5
FL	42.0	58.0	OK	100.0	0.0
GA	35.8	64.2	OR	100.0	0.0
HI	100.0	0.0	PA	63.0	37.0
IA	100.0	0.0	RI	100.0	0.0
ID	100.0	0.0	SC	94.5	5.5
IL	18.7	81.3	SD	100.0	0.0
IN	86.2	13.8	TN	100.0	0.0
KS	100.0	0.0	TX	100.0	0.0
KY	100.0	0.0	UT	100.0	0.0
LA	100.0	0.0	VA	52.2	47.8
MA	31.5	68.5	VT	100.0	0.0
MD	53.4	46.6	WA	39.6	60.4
ME	100.0	0.0	WI	64.2	35.8
MI	48.0	52.0	WV	97.0	3.0
MN	32.0	68.0	WY	100.0	0.0
MO	53.6	46.4			
MS	100.0	0.0	**Total $**	**1.4000E+11**	**1.22000E+11**
MT	100.0	0.0	**Share**	**53.4%**	**46.6%**

Figure 1.
Fraction of Counties by State With Data Collected From Property Tax Roll Offices By Core Logic in 2004



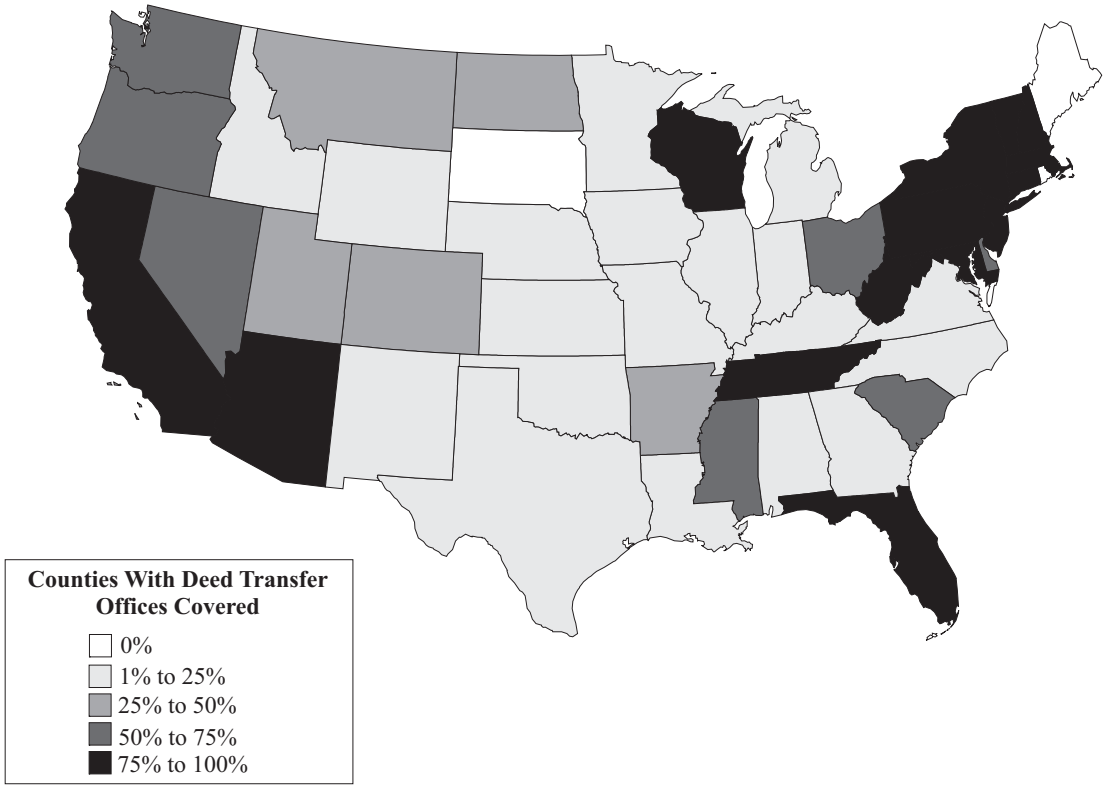
Source: Author's tabulations based on information provided by Core Logic.

Figure 2.
Fraction of Counties by State With Data Collected From Property Tax Roll Offices By Core Logic in 2004
(Weighted by 2002 County Area Property Tax Collections)



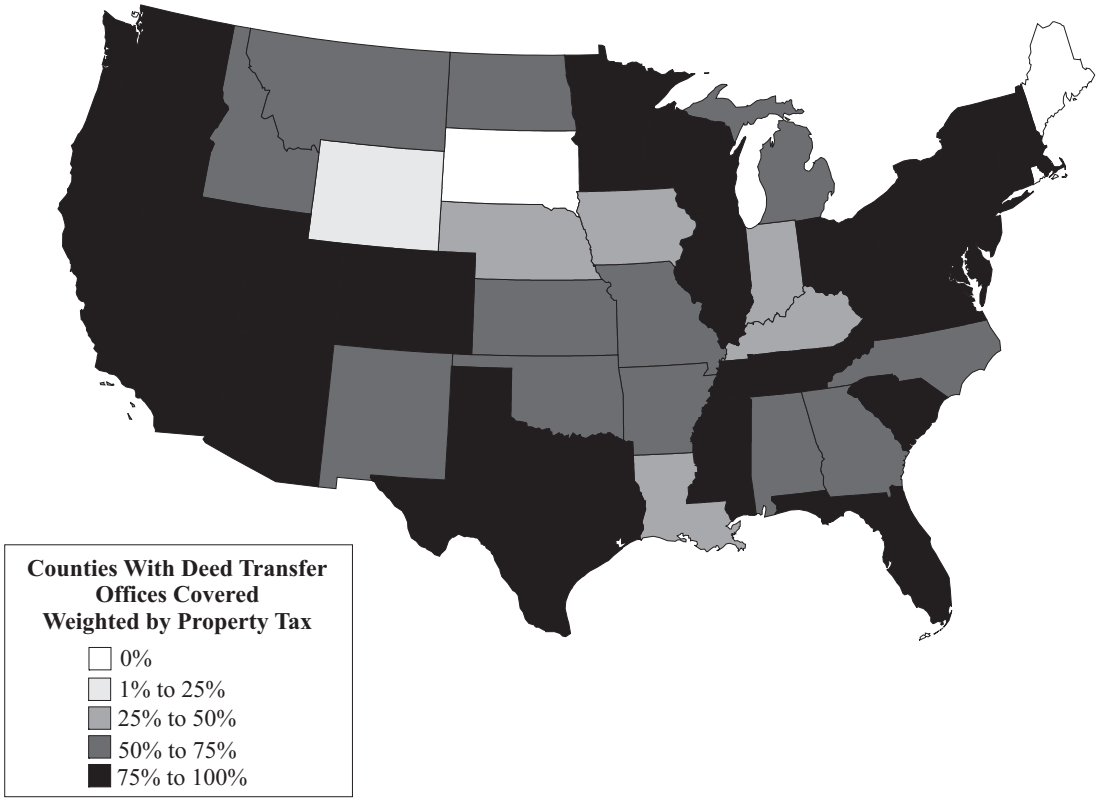
Source: Author's tabulations based on information provided by Core Logic.

Figure 3.
Fraction of Counties by State With Data Collected From Deed Transfer Offices By Core Logic in 2004



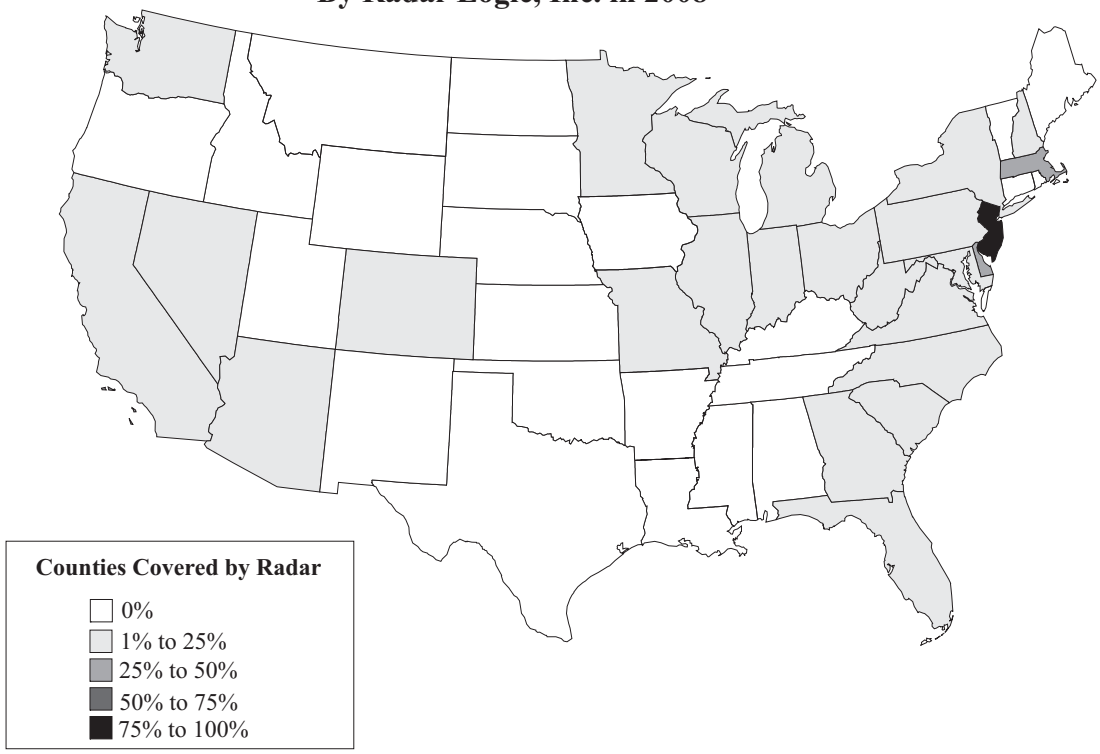
Source: Author's tabulations based on information provided by Core Logic.

Figure 4.
Fraction of Counties by State With Data Collected From Deed Transfer Offices By Core Logic in 2004
(Weighted by 2002 County Area Property Tax Collections)



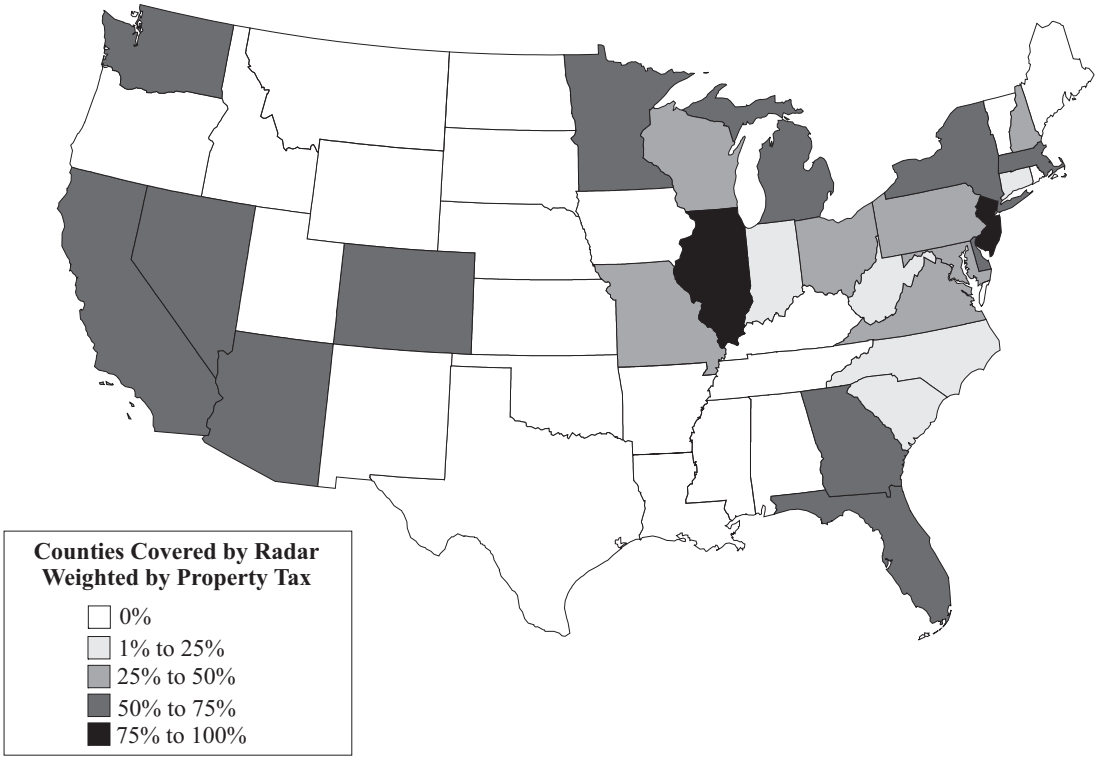
Source: Author's tabulations based on information provided by Core Logic.

Figure 5.
Fraction of Counties by State With Data Collected From Deed Transfer By Radar Logic, Inc. in 2008



Source: Author's tabulations based on information provided by Radar.

Figure 6.
Fraction of Counties by State With Data Collected From Deed Transfer by Radar Logic, Inc. in 2008 (Weighted by 2002 County Area Property Taxes)



Source: Author's tabulations based on information provided by Radar.