

# *Illinois*

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## **Illinois Assessment Uniformity: Improving Until the Bubble Burst**

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The property tax is the largest source of state and local government funding in Illinois, which relies more on property taxes than most other states. To assure acceptance of and compliance with any tax, taxpayers have to believe it is fair. Acceptance is particularly difficult with the property tax that many taxpayers believe to be unfair for a host of reasons, including:

- After the real estate bubble burst, homeowners' property values dropped but their taxes rose.
- Before that, tax bills rose even when homeowners did nothing to improve their property.
- The property tax bill comes due all at one time.

While it is difficult to convince property owners that the property tax is fair, one of the most critical factors in determining the fairness of the property tax is the uniformity of assessments. For the property tax to be fair – and in an ideal world also perceived as fair - similar

properties must pay similar taxes. *See: Why does uniformity matter more than accuracy?* in IFPC Research Report 2015-8. On this most critical factor, Illinois saw 20 years of substantial improvement in property tax assessment uniformity until that trend was reversed by the bursting of the real estate bubble in 2008. Even with that reversal, property tax uniformity has tended to improve over the last 32 years.

## **Coefficient of Dispersion**

The standard measure of assessment uniformity is Coefficient of Dispersion, or COD. The Illinois Department of Revenue calculates COD each year when it conducts the Assessment/Sales Ratio studies as part of the process of issuing the county equalization factors (multipliers). The complete data set of the COD by county for 1980 - 2012 was compiled by the Department of Revenue for this article.

In conducting those studies the department compares the assessed value of a property to its market value, which is determined by the sales price for sales from a willing seller to a willing buyer. This determines how close each county is to assessing property at the prescribed one-third of market value. The data allows the calculation of the level of assessment for each property and how far that level falls above or below the median level of assessment. The COD is the average distance between a property's level of assessment and the median level of assessment, expressed as a percentage of the median level of assessment. A 10 percent COD would mean that on average the assessment of a \$300,000 home

(which should be assessed at \$100,000) falls between \$90,000 and \$110,000. The lower the COD the more uniform the assessments. **See COD example page 7.**

The analysis in this paper is high level. It uses the countywide COD that is calculated in the Department of Revenue sales ratio study. The study computes a COD for any jurisdiction with enough sales and counties can show a wide variation in COD from township to township. For example, the countywide COD for Madison County in 2012 was 24.9, ranging from 12.6 in Jarvis Township to 69.6 in Nameoki. The countywide CODs for the 2012 sales ratio study (used for 2013 taxes payable in 2014) are listed in **Table 1.**

A word of caution is in order: the COD as a statistic does not measure how good or poor a job a particular assessing official is doing. It is easier to get a lower COD in jurisdictions that have a large amount of similar properties than in those with more mixed properties. For example, assessments will be more uniform in a suburban district that has new subdivisions and mostly residential property than in an urban district with its mix of new and older housing and commercial property. And, as we will discuss later, when the market is volatile, uniformity will decline. In fact the International Association of Assessing Officials (IAAO), the professional organization that establishes standards for the conduct of sales ratio studies, sets different COD standards for different types of property, ranging from 10 percent for single-family residential in newer or more homogeneous areas to 25 percent for vacant land.

<b>TABLE 1. Coefficient of Dispersion by County, 2012</b>			
<b>County</b>	<b>2012</b>	<b>County</b>	<b>2012</b>
Adams	18.19	Mason	35.37
Alexander	34.73	Massac	21.29
Bond	28.77	McDonough	25.42
Boone	30.16	McHenry	21.77
Brown	14.14	McLean	12.95
Bureau	34.46	Menard	19.47
Calhoun	46.06	Mercer	25.54
Carroll	46.81	Monroe	14.89
Cass	29.62	Montgomery	38.78
Champaign	17.45	Morgan	24.47
Christian	24.92	Moultrie	16.24
Clark	31.04	Ogle	22.04
Clay	31.37	Peoria	19.35
Clinton	20.59	Perry	45.00
Coles	20.52	Piatt	15.86
Crawford	31.07	Pike	35.51
Cumberland	26.69	Pope	68.71
De Witt	21.87	Pulaski	43.81
DeKalb	23.23	Putnam	35.30
Douglas	22.82	Randolph	38.86
Du Page	20.11	Richland	24.85
Edgar	26.88	Rock Island	23.11
Edwards	51.17	Saline	32.64
Effingham	21.53	Sangamon	17.64
Fayette	35.30	Schuyler	21.53
Ford	29.01	Scott	22.93
Franklin	44.95	Shelby	32.28
Fulton	39.47	St Clair	23.25
Gallatin	37.06	Stark	20.39
Greene	40.39	Stephenson	27.57
Grundy	21.86	Tazewell	16.98
Hamilton	33.19	Union	37.71
Hancock	33.42	Vermilion	42.36
Hardin	82.31	Wabash	26.95
Henderson	31.74	Warren	38.13
Henry	22.71	Washington	28.81
Iroquois	40.74	Wayne	38.34
Jackson	27.75	White	40.61
Jasper	26.00	Whiteside	30.05
Jefferson	34.62	Will	18.51
Jersey	26.54	Williamson	27.68
JoDavie	55.20	Winnebago	28.44
Johnson	41.57	Woodford	18.26
Kane	26.36		
Kankakee	27.52	<b>Average</b>	<b>30.1</b>
Kendall	21.18	<b>Median</b>	<b>27.7</b>
Knox	26.75		
La Salle	30.88		
Lake	24.29		
Lawrence	43.32		
Lee	29.84		
Livingston	25.04		
Logan	34.74		
Macon	24.22		
Macoupin	43.48		
Madison	24.90		
Marion	34.43		
Marshall	21.89		

Source: Illinois Department of Revenue

## COD in Illinois

Statewide, overall assessment uniformity improved from 1980 to 2012, as average county COD dropped from 43.3 % to 30.1%, a 30 percent improvement. (Note: Cook County is excluded from these calculations and is addressed in more detail in the accompanying article.)

Looking more closely at the data for sales between 1980 and 2012, as shown in **Chart 1**, the assessment quality statewide (as measured by average county COD) generally

- worsened during the 1980s,
- improved significantly during the 1990s, and
- deteriorated slightly since.

There are differences by regions within the State. We have separately analyzed the five Collar Counties (DuPage, Kane, Lake, McHenry and Will) from downstate counties, again for the 1980-2012 period.

As indicated in **Chart 2**, assessment uniformity in the five collar counties generally improved for 25 years, but then dropped dramatically as COD jumped up above 1980 levels in the years after the real estate crash in 2008.

As **Chart 3** shows, for the 96 downstate counties, assessment uniformity has generally improved over time as well. There was a decline in assessment quality (in other words, COD levels went up) after the real estate crash, but nowhere near the extent of that in the collar counties.

### CHART 1. STATEWIDE COUNTY AVERAGE COD



Source: Illinois Department of Revenue

### CHART 2. COLLAR COUNTY AVERAGE COD



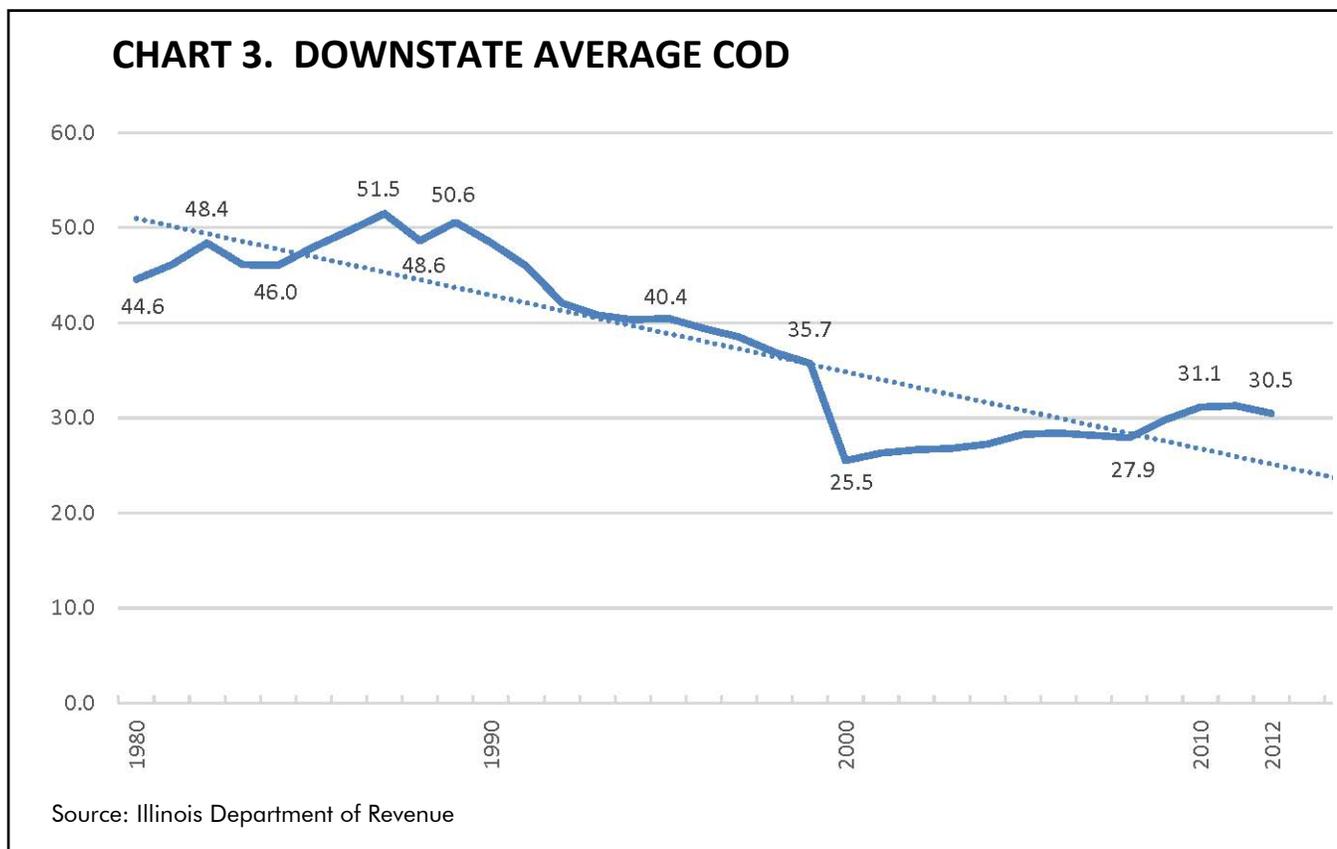
Source: Illinois Department of Revenue

Comparing the two regions, assessments were more uniform (had a lower COD) in the collar counties than downstate throughout the period. The more dramatic post-real estate crash change in the collar counties (which is mirrored in Cook County) most likely represents the fact that during the boom property values soared higher in the Collar Counties, leaving them to fall more quickly after the bubble burst. Rapidly-changing market values tend to be associated with a deterioration in assessment quality. Finally, because we are using un-weighted county averages much of the statewide improvement is attributable to increased uniformity in rural, downstate counties, which represent the largest number of counties, although not necessarily the largest property value.

**Table 2** shows the percent change in COD for the 20 counties showing the greatest improvement in assessment quality (the most significant decline in CODs) between 1988 and the bursting of the real estate bubble in 2008, the period when uniformity was increasing (and CODs were falling) fastest.

### 1986 Study

The quality of assessments in Illinois was the subject of a 1986 study conducted for the Taxpayers’ Federation by David Chicoine and J. Fred Giertz at the University of Illinois’ Institute for Government and Public Affairs, *Property Tax Assessment in Illinois: Structure and Performance*. The study found wide variations in assessment quality and concluded that “assessment quality is unacceptably low in many Illinois jurisdictions,” and identified small, rural assessing jurisdictions as the problem.



The study recommended that:

- Coefficient of Dispersion be used as the basic measure of uniformity.
- Smaller assessment jurisdictions be consolidated or contract with larger jurisdictions for services.
- The professional education program be enhanced.
- Enhanced state bonuses be enacted for meeting certain standards of uniformity.
- The status and attention given property tax by the Department of Revenue be elevated.
- The state initiate a state-sponsored program to computerize and standardize assessment in all counties.
- The Department of Revenue establish an integrated assessment-management system.

The study also identified, but did not recommend, more extreme measures that could be considered, including the rejection of assessments that are non-uniform and a requirement they be corrected before taxes can be collected, that assessing jurisdictions with unacceptable CODs be placed in receivership, or that taxpayers be encouraged to use non-uniformity to challenge their assessments. Few of their recommendations were implemented.

### State Role

The Department of Revenue supports local assessors by teaching courses, administering an education program and conducting examinations for various local assessment

officials. State law establishes minimum education standards that local assessors must meet before being appointed or elected, and the Department administers those programs. It also pays stipends and bonuses to assessing officials who meet certain criteria. During the period examined, the Department of Revenue standardized education requirements, tweaked criteria for assessor bonuses, and championed legislation requiring assessors to meet criteria before they could run for election.

<b>TABLE 2. Percentage Change in COD, 1988 - 2008</b>		
<b>RANK</b>	<b>COUNTY</b>	<b>PERCENT CHANGE</b>
1	Boone	-79.98%
2	Peoria	-75.99%
3	Stark	-73.82%
4	Putnam	-73.79%
5	Knox	-73.68%
6	Brown	-69.21%
7	Henderson	-66.58%
8	Macon	-65.72%
9	Rock Island	-65.38%
10	Lee	-64.63%
11	Crawford	-61.73%
12	Menard	-60.41%
13	Alexander	-58.37%
14	Richland	-56.87%
15	McHenry	-55.52%
16	Bureau	-55.36%
17	Tazewell	-55.08%
18	Whiteside	-54.87%
19	Sangamon	-54.65%
20	Washington	-53.91%

Source: Illinois Department of Revenue

## Coefficient of Dispersion, Explained

To understand the Coefficient of Dispersion and what it measures, let's take two hypothetical taxing jurisdictions, Jurisdiction A and Jurisdiction B, as illustrated in **Table A** and graphed in **Chart A** and **Chart B**. Table A shows five identical houses that sell for (our proxy for value), respectively:

House A	\$120,000
House B	\$150,000
House C	\$180,000
House D	\$210,000
House E	\$300,000

Table A also shows the assessed value for each house in the two jurisdictions.

On initial view the districts seem the same. Both have a median level of assessment of 33 1/3 percent (The median is the middle point of the ratio of assessment to selling price; in both jurisdictions the midpoint is House C, which is assessed at \$60,000 and is valued at – i.e. sells for – \$180,000.) The median level is shown as the dotted line on Charts A and B. Each jurisdiction has the same taxable value, \$330,000. Jurisdiction A and Jurisdiction B have identical overall levels of assessment and identical total taxable value.

However, Jurisdiction A assesses property more uniformly than Jurisdiction B. The effect of uniformity in assessments shows on Charts A and B, where the assessment for each property has been graphed against the sales price with the median level shown as the dotted line. In Jurisdiction A, House A is \$7,000, or 17.5 percent, above the median; in Jurisdiction B, House A is \$20,000, or 50 percent, above the median.

The coefficient of dispersion is the average distance from the point on the graph to the median line (the “correct” assessment), without regard to whether the point is above or below the median. The COD measures how closely the individual data points track to the median. The lower the COD, the closer the points are to the median and the more uniform the assessments.

Jurisdiction A has a COD of 10, which means that on average each of the five transactions' sales prices is 10 percent from the median assessment level. Jurisdiction B has a higher COD of 30 percent. A 10 percent COD is a good one, while the 30 percent COD is closer to the statewide county average.

In a real-world example, there would be many more sales, but the results would look similar to those shown on graphs in Charts A and B. A jurisdiction with a lower COD would be reflected as points more closely clustered around the median, while a higher COD would show points more widely scattered.

Remembering that we started with identical jurisdictions with identical median levels of assessment and identical taxable values, Table A shows the importance of uniform assessments. In Jurisdiction A, with one exception (House A and House B), the higher the value of the house the higher the assessment (and property tax bill). In Jurisdiction B, House A is paying more or the same property tax than Houses B, C and D which are more valuable. And House C is paying significantly more tax than House D, even though it is worth less.

When homeowners get their property tax bills and compare them to their neighbors', those in Jurisdiction B would have a far easier time of making an argument that their property tax was unfair.

<b>TABLE A. Coefficient of Dispersion Examples</b>			
	<b>HOME VALUE</b>	<b>ASSESSED VALUE JURISDICTION A</b>	<b>ASSESSED VALUE JURISDICTION B</b>
<b>A</b>	<b>\$120,000</b>	<b>\$47,000</b>	<b>\$60,000</b>
<b>B</b>	<b>\$150,000</b>	<b>\$46,000</b>	<b>\$36,000</b>
<b>C</b>	<b>\$180,000</b>	<b>\$60,000</b>	<b>\$60,000</b>
<b>D</b>	<b>\$210,000</b>	<b>\$63,000</b>	<b>\$41,000</b>
<b>E</b>	<b>\$300,000</b>	<b>\$114,000</b>	<b>\$133,000</b>
<b>TOTAL</b>		<b>\$330,000</b>	<b>\$330,000</b>

Source: Compiled by Author



## **Assessors' Views**

Assessing officials attribute the increased uniformity (lower CODs) to improved use of tools and increased automation of the process to better utilize data. Mark Armstrong, Kane County Supervisor of Assessments and chairman of the legislative committee for the Chief County Assessment Officers' (CCAO) Association, said his predecessor had provided computer assisted appraisal software to township assessors. Armstrong said that when he started appraising in the mid-1980s, township assessors had hand written property record cards, while today they have computerized records and have learned how to use that data. Wendy Ryerson, Lee County Supervisor of Assessments, similarly credits the transition from hand recorded data to a centralized database for improvements in her county. Larry Wilson, Rock Island County Supervisor of Assessments and CCAO Association president, says the inclusion of what are called "compulsory sales," the sale

by a bank after a foreclosure, have affected CODs (foreclosures are excluded from the IDOR study). And Armstrong predicts that after the current disarray in the markets settles down that CODs will again begin to improve.

## **Conclusion**

Until the real estate bubble burst in about 2008, the uniformity of Illinois assessments had been moving in the right direction. Much of the improvement was in the downstate counties (although assessments were and remain more uniform in the metropolitan area in northeastern Illinois), in areas identified by Chicoine and Giertz 20 years before as having unacceptably low assessment quality. The "post-crash" decline in uniformity reflects large numbers of foreclosures that flooded the market, reducing property values and generally unsettling the market. Uniform assessments remain the key to a "fair" property tax system and deserve to be given attention.