

Progress Report

Assessing Cook County's progress toward fairer residential and commercial property assessments over the past five years.

BY CHRISTOPHER BERRY

Cook County, Illinois, made substantial progress in improving the fairness of residential assessments from 2019 to 2024, according to a recent study. By all measures, regressivity—the tendency for lower-priced properties to be assessed at higher rates, relative to their actual sale price, than higher-priced properties—has been dramatically reduced, relative to the assessments imposed before that six-year period. These improvements have resulted in over a billion dollars in aggregate tax savings for owners of middle and lower-priced properties, relative to the over-taxation they experienced previously. While areas for improvement remain, Cook County is within industry standards for residential assessment fairness for the first time in years.

Another finding is that pre-2019 average assessments on commercial properties increased, leading toward a shift in the aggregate tax burden from residential onto commercial property. This shift was largely undone by reductions in

commercial assessments granted by the Cook County Board of Review since 2019.

This article evaluates the progress the assessor's office has made on the fairness of residential assessments.

Reduced regressivity in residential assessments

The standard method for evaluating residential assessments is a sales ratio analysis, which is the ratio of a property's sale price to the assessed value in place at the time of sale. Cook County uses a fractional assessment rate of 10 percent for residential property, meaning that a property should be assessed at 10 percent of its market value. For instance, a property with a market value of \$500,000 should have an assessed value of \$50,000. Of course, no assessment system is perfect. Errors in estimation, as well as time lags between when assessments are made and when properties sell, mean it would be unrealistic to expect every assessment ratio to be exactly 10 percent.

While assessment errors are unavoidable, in a fair assessment system, the deviations between assessed values and sale prices should not be correlated with

the price of the property. When sales ratios do not systematically vary with sale prices, we can label the assessments vertically equitable. But when sales ratios are systematically higher for lower-priced properties than they are for higher-priced properties, assessments can be labeled vertically inequitable, or regressive.

While many statistical measures of assessment accuracy and fairness are available, often a simple plot of assessment ratios by sale price is most informative. Exhibit 1 provides a hypothetical depiction of fair versus regressive assessments. The horizontal axis represents the property sale price, while the vertical axis represents the assessment ratio. The orange line depicts a fair assessment system, in which the expected assessment ratio is equal across the spectrum of property prices. While errors can be made in any individual property assessment, if the errors are uncorrelated with prices, the average assessment ratio at every price point will lie on the orange line. By contrast, the blue line depicts a regressive assessment system, in which assessment ratios are higher, on average, for lower-priced properties.

Turning to the actual data, Figure 2 presents average sales ratios, by quantile of sale price, for the 2019 to 2024 period versus previous years. Figure 2 includes all non-condominium properties that sold in Cook County during the years under consideration. [Condominiums are discussed separately below.] Properties are divided into 20 quantile bins according to sale price in each year of sale. For instance, the leftmost dot in the figure represents the bottom 5 percent of properties in terms of sale price, while the rightmost dot represents the top 5 percent. The figure displays the average assessment ratio and sale price for each bin across three reassessment cycles (RA): The last RA performed by the previous assessor, and the first two RAs performed by the most recent assessor.¹

The chart shows that the pre-2019 assessments were regressive. Homes in the bottom 5 percent were assessed at nearly 12.5 percent—i.e., 125 percent of their actual sale prices—whereas homes in the top 5 percent were assessed at only 8.2 percent, or 82 percent of their sale prices, on average. In other words, the assessment ratio for the low-priced homes was 153 percent of the assessment ratio for the high-priced homes, on average. The new administration's first reassessment substantially improved these inequities, which were reduced further during the administration's second term. The ratio of the bottom versus top bin in the new administration's second term is 116 percent.

Looking next at condos, depicted in Figure 3, there is a somewhat different pattern. Pre-2019, the lowest-priced 5 percent of condos were assessed at a higher rate than any other quantile. Beyond that, however, ratios were relatively even, with remaining quantile averages in a narrow range of about 8 to 9.25 percent. Over-assessment of the lowest priced condos was reduced, and ratios for the remaining quantile fell within the range of 8.2 to 8.9 percent from 2022 to 2024. In short, regressivity within condos was less severe under the previous administration, and recent changes have been less dramatic compared to the observed improvements for other residential properties.

EXHIBIT 1 | Fair Versus Regressive Assessments

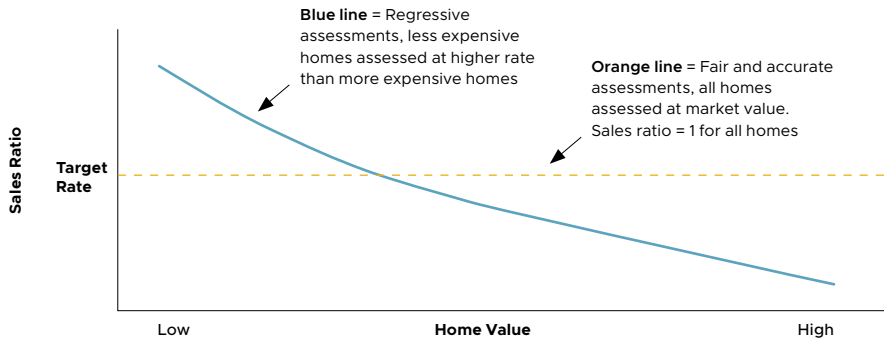
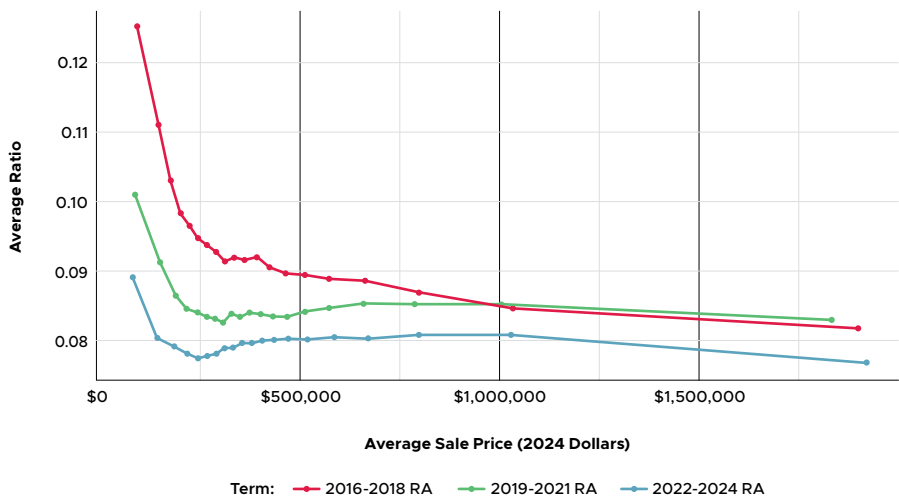


EXHIBIT 2 | Assessment Ratios by Sale Price Quantile, Excluding Condos



The more recent improvements are also reflected in industry-standard diagnostic statistics, reported in Figure 1, which summarizes the three terms: the previous administration, from 2016 to 2018; the current administration, from 2019 to 2021; and from 2022 to 2024.

The coefficient of dispersion (COD) is a measure of assessment uniformity, or horizontal equity. It is the average absolute percentage difference from the median sales ratio. For instance, a COD of 10 means that properties have ratios that, on average, deviate by 10 percent from the median ratio. The International Association of Assessing Officers (IAAO)

specifies that the acceptable range for COD is below 15. Cook County has been above the acceptable range throughout, but there have been steady improvements in recent years.

The price-related differential (PRD) is a measure of regressivity, or vertical equity. A PRD of 1 indicates, loosely, that high- and low-priced homes are assessed at the same rate. A PRD greater than 1 indicates that less expensive homes are assessed at higher rates than more expensive homes, while a PRD less than 1 represents the opposite situation. The IAAO specifies that the acceptable range of PRD is .98 to 1.03. The PRD was just

above the acceptable range under the previous administration (i.e., regressive) but has been brought into compliance under the current administration.

Note that while fairness has clearly improved, accuracy hasn't, and in fact appears to have declined slightly. The median residential assessment ratio has declined from 8.8 percent under the previous administration to 8.6 percent under the most recent administration's first term, and to 8.2 percent under its second term. In other words, residential properties are increasingly under-assessed on average. While the cause of the observed reduction in sales ratios is not the subject of this study, several factors may be at play. In general, observed sales ratios will be below statutory rates due to time lags between property sales and assessments. In periods when market values are increasing faster, observed sales ratios will be lower. In addition, the most recent administration issued COVID adjustments, which may have lowered subsequent sales ratios if sale prices declined less than the adjustments anticipated, which appears to have been the case.² In addition, modeling errors or intentional policy choices could lead to lower assessment ratios.

Residential tax shifting due to regressive assessments

Assessment regressivity has had economically consequential effects in Cook County, resulting in billions of dollars in residential property taxes being shifted from those who are under-assessed onto those who are over-assessed. For an individual property, a tax shift denotes the difference between the tax bill the property would pay if assessments were perfectly accurate and the tax bill the property actually receives. When assessments are regressive, high-value properties tend to have negative tax shifts, meaning that they pay too little, while low-value properties tend to have positive tax shifts, meaning that they pay too much in taxes. In essence, over-assessed properties end up paying the taxes for under-assessed properties. Exhibit 5 shows the estimated tax shift by decile of sale price.

EXHIBIT 3 | Assessment Ratios by Sale Price Quantile, Condos

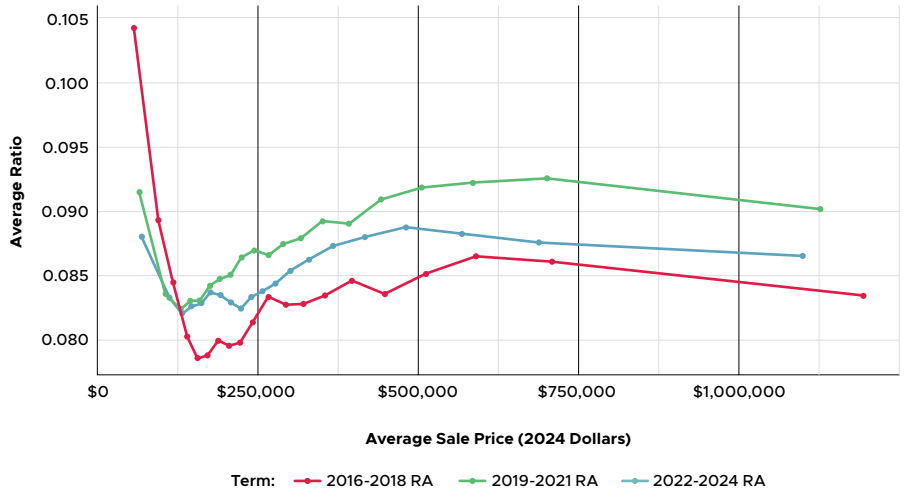
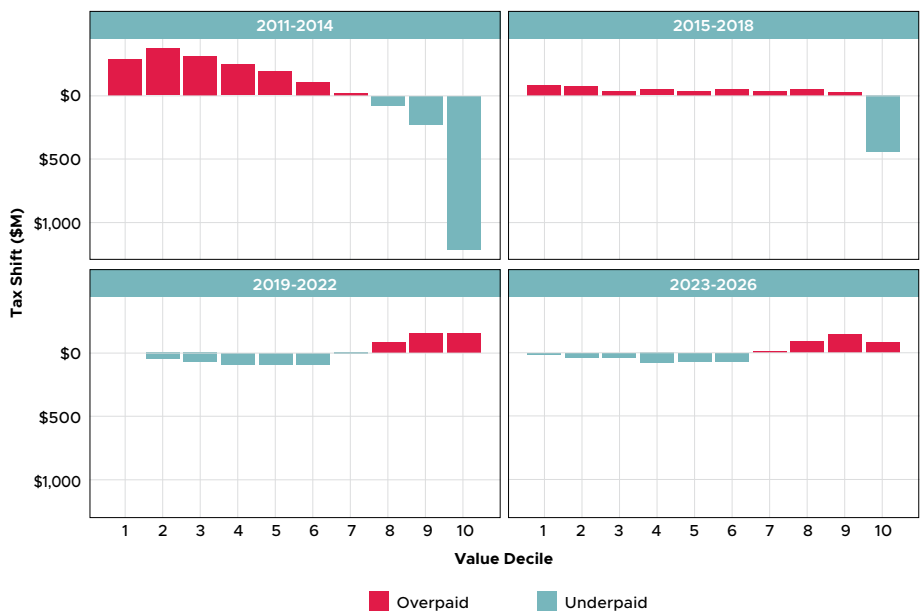


EXHIBIT 4 | Industry-Standard Diagnostic Statistics

Term	Number of Sales	COD	PRD	Median Ratio	Median Sale	Median Assessed Value
2016-2018 RA	182,859	20.01	1.036	0.088	\$240,000	21,461
2019-2021 RA	193,820	19.47	1.008	0.086	\$270,000	22,535
2022-2024 RA	161,943	18.87	1.007	0.082	\$310,000	25,000

EXHIBIT 5 | Residential Tax Shift





Comparing the two terms under the previous administration and the tenure under the current administration, over-taxation of low- and middle-priced homes has decreased by \$1.9 billion.

In the first term of the former administration (2011 to 2014), the top (most expensive) decile was under-taxed by \$1.2 billion, and the top three deciles collectively were under-taxed by \$1.5 billion. The taxes were shifted onto middle- and lower-priced properties and disproportionately fell on the bottom three deciles, which were over-taxed by \$977 million. The situation improved during the previous administration's 2015 to 2018 administration, when the top decile was under-taxed by \$442

million, with the taxes shifted onto the remaining nine deciles. All told, the top 10 percent of homes were under-taxed by roughly \$1.7 billion under the new administration, relative to what they would have paid if assessments had been correct.

Meanwhile, middle- and lower-priced properties have been slightly under-taxed. Overall, however, tax shifting under the current administration has been relatively modest—all deciles are within 10 percent of the correct tax share—reflecting the significantly

increased fairness of assessments in general.

Comparing the two terms under the previous administration and the tenure under the current administration, over-taxation of low- and middle-priced homes (the bottom seven deciles) has decreased by \$1.9 billion.

Even with the improvements in assessment fairness, it is not necessarily the case that tax bills have been declining in absolute dollars, even for those properties that were previously being over-assessed. This is because taxing jurisdictions in Cook County have raised their levies substantially during the current administration's tenure, and levy increases will cause tax bills to rise on average. For instance, since 2018, the City of Chicago has raised its property tax levy by 1.9 percent, while Chicago Public Schools raised its levy by 24 percent. Assessments determine how the levy is distributed across properties, but they do not affect the levies directly.

Commercial versus residential assessments

The preceding analyses addressed residential assessments exclusively. Another noteworthy change under the most recent administration has to do with the balance of commercial and residential assessments. In particular, since 2019, the assessor's office has increased commercial assessed values more than residential assessed values, resulting in an increase in the share of commercial value in the total tax base. In principle, increasing the commercial share of total value should lead to reductions in residential taxes. However, the Board of Review has granted commercial appeals at a rate that has effectively undone those changes.

To understand these outcomes, it is important to note that there are three stages in the assessment process. First, the assessor mails estimated assessed values, known as first-pass values, which represent the assessor's internal estimates. Second, the assessor considers appeals to the first-pass values and may make resulting reductions. The values issued after appeals to the

assessor are known as certified values. Third, property owners may appeal to the Cook County Board of Review, an independently elected body, which may grant its own reductions in assessed values. The values after the appeal process at the Board of Review are known as the board values or final values.

Exhibits 6 and 7 depict the balance of assessed values between residential and commercial properties at each stage of the assessment process, while Exhibit 6 displays the actual dollars of assessed value.

Before 2019, the assessor's office granted significant reductions after appeals, which resulted in increases in the residential share of total value. In other words, the assessor granted disproportionate reductions for commercial property on appeal, which effectively transferred more of the tax burden onto residential property. The Board of Review granted additional reductions that further reduced the commercial share of assessed values, but most of the reductions were granted at the assessor appeal stage. From 2010 to 2019, the difference between certified and board commercial shares ranged between 0.3 and 1.4 percent.

Notable changes are evident since 2019. First, the residential share of the first-pass assessed values was lowered, meaning that commercial valuations were increased faster than residential valuations. This change would have the effect of lowering average residential tax bills. Second, the value of reductions on appeal to the assessor's office was reduced after 2019, reflected in a much smaller gap between certified and first-pass values. However, the Board of Review has been effectively undoing the reductions in the share of residential value. Since 2019, the Board of Review has annually shifted 3 to 4 percent of the tax base onto residential properties via reductions in commercial valuations on appeal, amounting to billions of commercial assessed values being removed from the tax roll. In 2024, reductions granted by the BOR amounted to about \$5 billion in commercial assessed value, roughly equivalent to \$20 billion in market value.

EXHIBIT 6 | Residential Share of Assessed Value at Different Stages

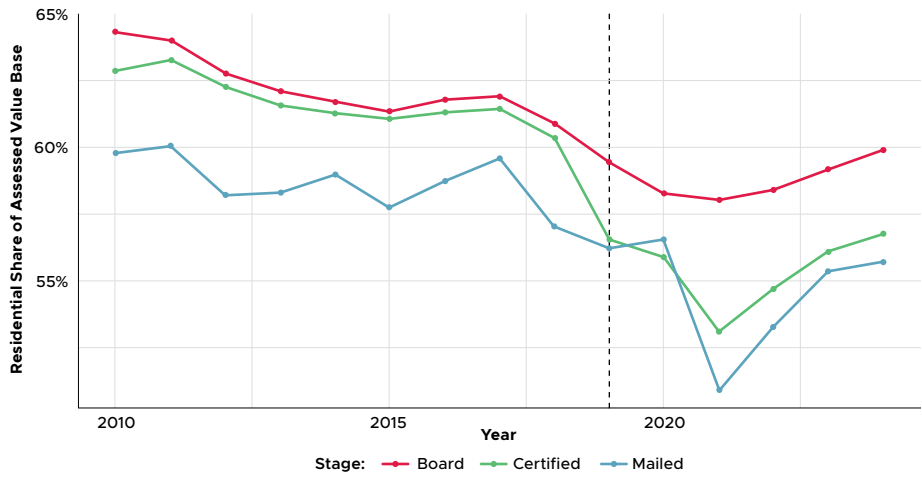
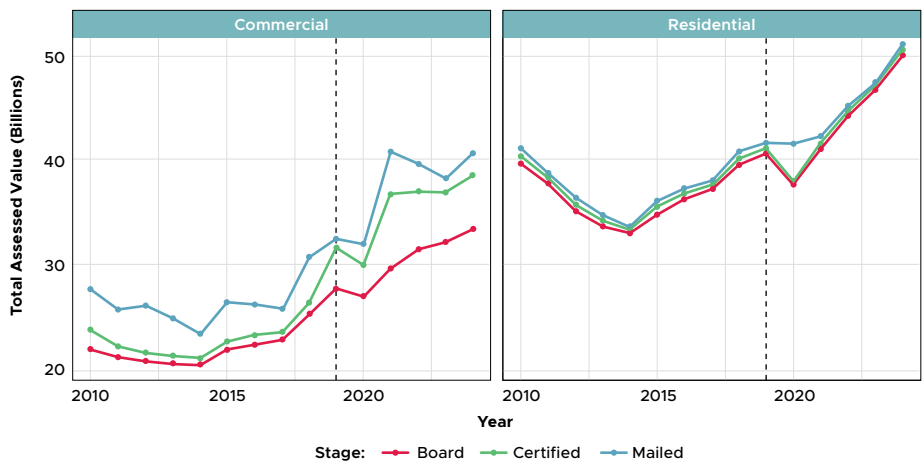


EXHIBIT 7 | Total Assessed Value at Different Stages



Conclusions

Evaluating the quality of commercial assessments is beyond the scope of this article and, as such, we do not offer a judgment as to whether the Board of Revenue or assessor valuations are more accurate. Rather, this analysis should be taken as a description of the changing dynamics between the assessor and the Board of Revenue under the most recent administration. ¹

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University of Chicago's Harris School of Public Policy and the College.

¹ In Cook County, only a certain portion of the county is reassessed every year, with a complete cycle completed every three years. This means, for example, that in 2019, only a third of the assessments issued that year were made by the new administration, and the other two-thirds of the county were derived from assessments originally made by the previous administration in 2017 and 2018. Therefore, we don't see the new administration's full cycle of reassessments and every property in Cook County until 2021.

² In 2020, the current administration issued COVID adjustments for all properties (residential and commercial) in the entire county, applied on the neighborhood level, including neighborhoods that weren't scheduled to be reassessed in 2020. These adjustments are reflected in the changes to the total certified assessed value in the 2020 tax year. Generally, these adjustments were around a 10 percent reduction for residential property and between a 10 and 30 percent reduction for commercial property.