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An Evaluation of Progress on Residential Assessment Fairness in Cook County

Contact:

Christopher Berry

William J. and Alicia Townsend Friedman Professor

The University of Chicago

crberry@uchicago.edu

This Draft: September 3, 2025

Executive Summary

This report evaluates the changes in property assessments made during Fritz Kaegi's first six years as Cook County Assessor, 2019 to 2024. The central finding is that the Kaegi administration has made substantial progress in improving the fairness of residential assessments. 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 by Kaegi's predecessor, Joseph Berrios. 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 during the Berrios years. While areas for improvement remain, Cook County is within industry standards for residential assessment fairness for the first time in years. A second finding is that Kaegi raised average assessments on commercial properties, which would have led to a shift in the aggregate tax burden from residential onto commercial property. However, this shift was largely undone by reductions in commercial assessments granted by the Cook County Board of Review.

Background

In 2018, Cook County voters elected Fritz Kaegi as assessor. The election followed a series of articles in the *Chicago Tribune* exposing regressivity in assessments under Kaegi's predecessor, Joseph Berrios. *Regressivity* describes a situation in which lower-priced properties are systematically assessed at more than their market value while higher-priced properties are assessed at less than their market value. Kaegi ran on a campaign promising to fix regressivity and other deficiencies in the assessor's office. This report evaluates progress on the fairness of residential assessments made under Kaegi's tenure to date.

Reduced Regressivity in Residential Assessments

The standard method to evaluate residential assessments is a sales ratio analysis. A sales ratio is the ratio of a property's sale price to the assessed value in place at the time for sale. Cook Country uses a fractional assessment rate of 10% for residential property, meaning that a property should be assessed at 10% 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. Due to errors in estimation as well as time lags between when assessments were made and when properties sell, it would be unrealistic to expect every assessment ratio to be exactly 10%. 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 systemically vary with sale prices, we can label the assessments vertically equitable. However, 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. Figure 1 provides a hypothetical depiction of fair versus regressive assessments. In the figure, 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 any individual property may be assessed with error, 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.

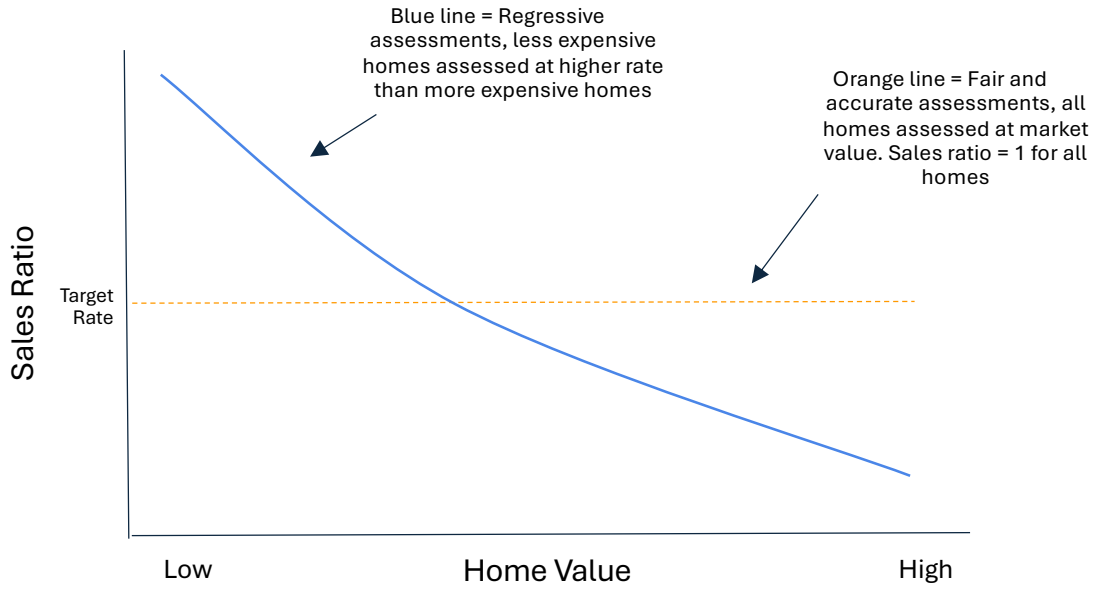

Figure 1: Fair versus Regressive Assessments

Turning to the actual data, Figure 2 presents average sales ratios, by quantile of sale price, under Berrios and Kaegi. 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% of properties in terms of sale price, while the rightmost dot represents the top 5%. The figure displays the average assessment ratio and sale price for each bin across three reassessment cycles (RA): Berrios' last RA, and Kaegi's first two RAs.[1]

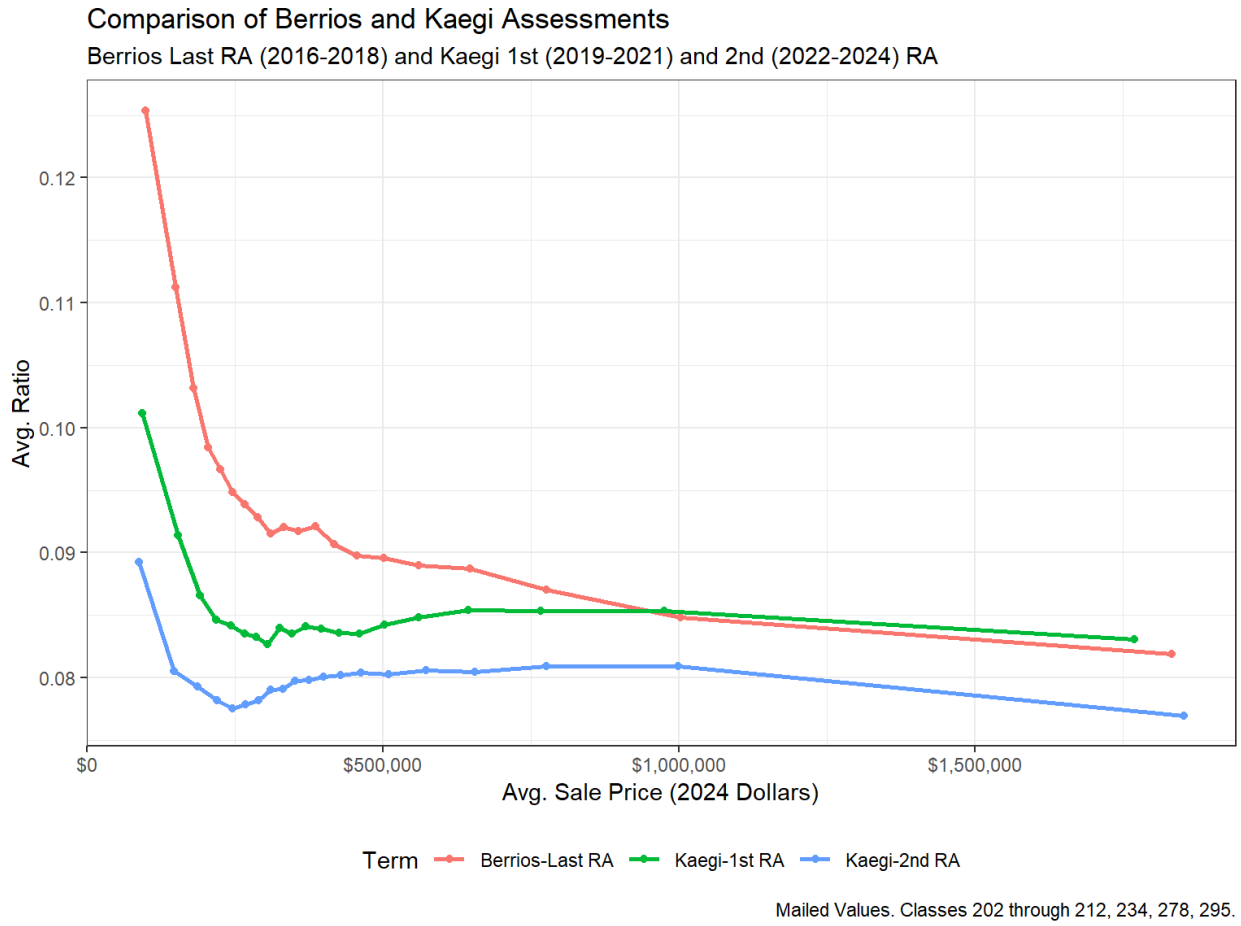

Figure 2: Assessment Ratios by Sale Price Quantile under Berrios and Kaegi, excluding Condos

[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 (Kaegi's first reassessment year) only 1/3rd of the assessments issued that year were made by Kaegi, and the other 2/3rds of the county were derived from assessments originally made by Berrios in 2017 and 2018. Therefore, it was not until 2021 that Kaegi completed a cycle of reassessments and every property in Cook County was assessed by Kaegi.

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

Looking next at condos, depicted in Figure 3, there is a somewhat different pattern. Under Berrios, the lowest-priced 5% 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%. Under Kaegi, overassessment of the lowest priced condos was reduced and ratios for the remaining quantile fell within the range of 8.2% to 8.9% from 2022 to 2024. In short, regressivity within condos was less severe under Berrios and changes under Kaegi have been less dramatic, compared to the observed improvements for other residential properties.

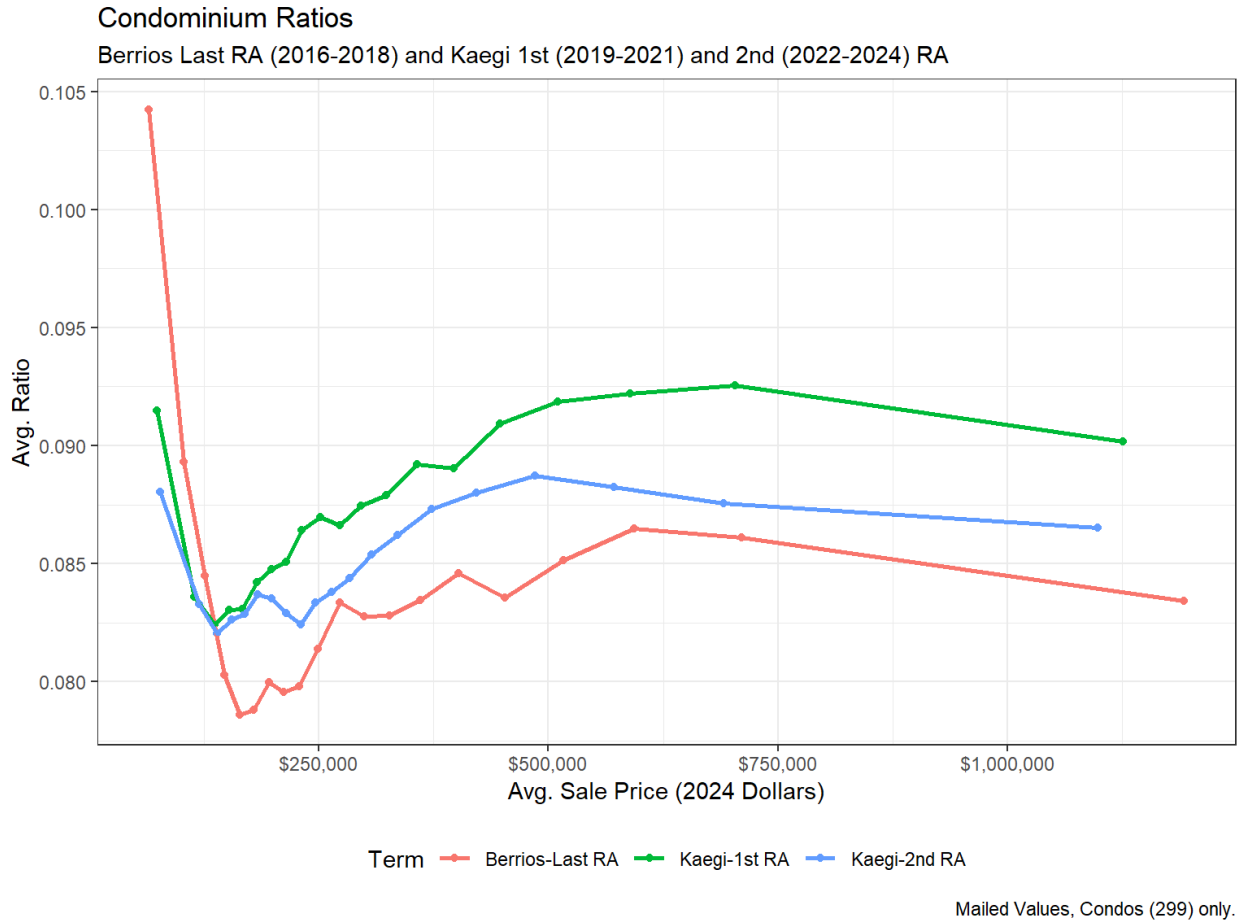

Figure 3: Assessment Ratios by Sale Price Quantile under Berrios and Kaegi, Condos

The improvements under Kaegi are also reflected in industry-standard diagnostic statistics, reported in Table 1, which summarizes the three terms, Berrios from 2016 to 2018, Kaegi from 2019 to 2021, and Kaegi from 2022 to 2024.

Table 1: Industry-Standard Diagnostic Statistics

Term	Number of Sales	COD	PRD	Median Ratio	Median Sale	Median Assessed Value
Berrios-Last RA, 2016 to 2018	182,859	20.01	1.036	0.088	$240,000	21,461
Kaegi-1st RA, 2019 to 2021	193,820	19.47	1.008	0.086	$270,000	22,535
Kaegi-2nd RA, 2022 to 2024	161,943	18.87	1.007	0.082	$310,000	25,000

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 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 under Kaegi.

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 Berrios (i.e., regressive) but has been brought into compliance under Kaegi.

Note that while fairness has clearly improved under Kaegi, accuracy has not improved, and in fact appears to have declined slightly. The median residential assessment ratio has declined from 8.8% under Berrios to 8.6% under Kaegi's first term and to 8.2% under Kaegi's 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, Kaegi 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.[3] 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-valued 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. Figure 4 shows the estimated tax shift during the Berrios and Kaegi years by decile of sale price.[4]

In the first term of Berrios, 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-prices properties and disproportionately fell on the bottom three deciles, which were over-taxed by $977 million.[5] The situation improved during Berrios's second term, when the top decile was under-taxed by $442 hundred million, with the taxes shifted onto the remaining nine deciles. All told, the top 10% of homes were under-taxed by roughly $1.7 billion under the Berrios administration, relative to what they would have paid if assessments had been correct.

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[2] Kaegi in 2020 issued COVID adjustments for all properties (residential and commercial) in the entire county, applied on the neighborhood level including neighborhoods which were not 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% reduction for residential property and between a 10% and 30% reduction for commercial property.

[3] See Berry, Tax Shifting Due to Regressive Assessments.

[4] The tax shift in Figure 4 is estimated following the methods developed by Berry (ibid) and data for all years have been inflation-adjusted to 2024 dollars.

[5] The tax shift would likely be even larger if homeowner's exemption were taken into account. This is because the homeowner's exemption exempts a larger share of value for lower priced properties, which should make property tax rates slightly progressive.

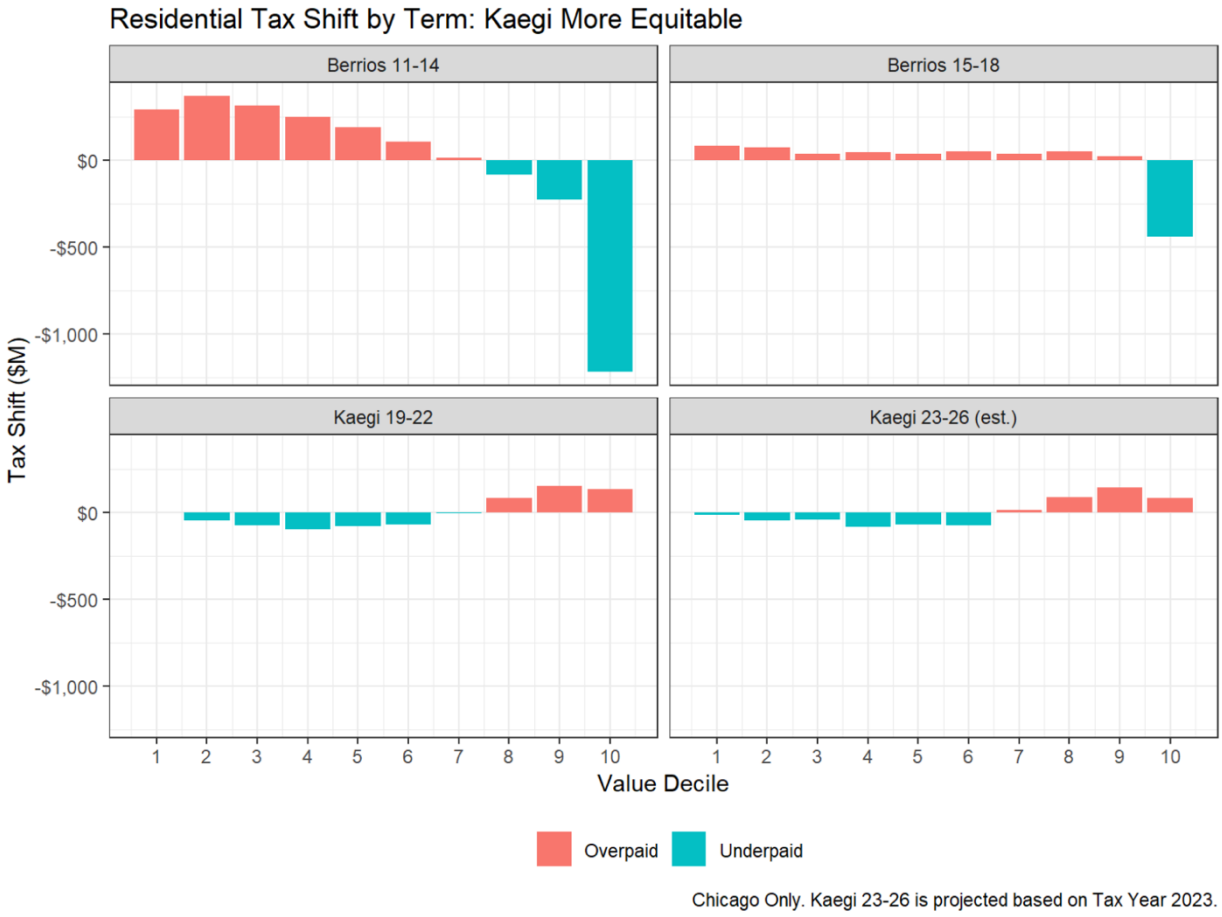

Figure 4: Residential Tax Shifting under Berrios and Kaegi

Tax shifting has been dramatically reduced and nearly eliminated under Kaegi. If anything, top-end properties have been slightly over-taxed, but the shift has been relatively small relative to the Berrios numbers.[6] The top decile was over-taxed by $134 million (2.2% of total taxes) in Kaegi's first term and $85 million (1.4% of total taxes) in the second term.

Meanwhile, middle- and lower-priced properties have been slightly under-taxed. Overall, however, tax shifting under Kaegi has been relatively modest—all deciles are within 10% of the correct tax share—reflecting the significantly increased fairness of assessments in general.

Comparing the two terms under Berrios and the tenure under Kaegi thus far, over-taxation of low- and middle-priced homes (the bottom 7 deciles) has been $1.9 billion lower under Kaegi.

[6] Accounting for homeowner's exemptions, tax shifting under Kaegi would be even smaller in magnitude.

It is important to emphasize that Figure 4 represents the aggregate tax shift among all homes within a given price decile; the shift for any individual home may not follow the aggregate pattern.

Even with the improvements in assessment fairness, it is not necessarily the case 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 Kaegi'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 19%, while Chicago Public Schools raised its levy by 24%. Assessments determine how the levy is distributed across properties but they do not affect the levies directly.

COMMERCIAL VS. RESIDENTIAL ASSESSMENTS

The preceding analyses addressed residential assessments exclusively. Another noteworthy change under the Kaegi administration has to do with the balance of commercial and residential assessments. In particular, Kaegi 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 (BOR), an independently elected body, which may grant its own reductions in assessed values. The values after the appeal process at the BOR are known as the *board values* or *final values*.[7]

Figures 5A and 5B depicts the balance of assessed values between residential and commercial properties at each stage of the assessment process. Figure 5A displays the

[7] Values can and do change after the Board of Review as appeals can be filed at the Property Tax Appeal Board (PTAB) or Cook County Circuit Court. For the purposes of this analysis, we do not consider these appeals as they generally take places months or years after the assessment cycle. Taxing agencies are required to issue refunds to taxpayers who file successful appeals at this stage, with interest paid.

percentage of assessed values for each class while 5B displays the actual dollars of assessed value.

Prior to 2019—that is, under Berrios—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%.

Notable changes are evident after Kaegi took office in 2019. First, Kaegi lowered the residential share of the first-pass assessed values, meaning that Kaegi increased commercial valuations faster than residential valuations. This change would have the effect of lowering average residential tax bills. Second, Kaegi reduced the value of reductions on appeal to the assessor's office, reflected in 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 is annually shifting 3% to 4% 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.

Evaluating the quality of commercial assessments is beyond the scope of this study and, as such, we do not offer a judgment as to whether the BOR or assessor valuations are more accurate.[8] Rather, our analysis should be taken as a description of the changing dynamics between the assessor and the BOR under Kaegi's administration.

[8] A recent independent evaluation by Joshua Meyers suggests that reductions granted by the Board of Review reduce the quality of assessments, relative to industry standards. See Analysis of Commercial Valuation Practice in the Cook County Property Tax System.

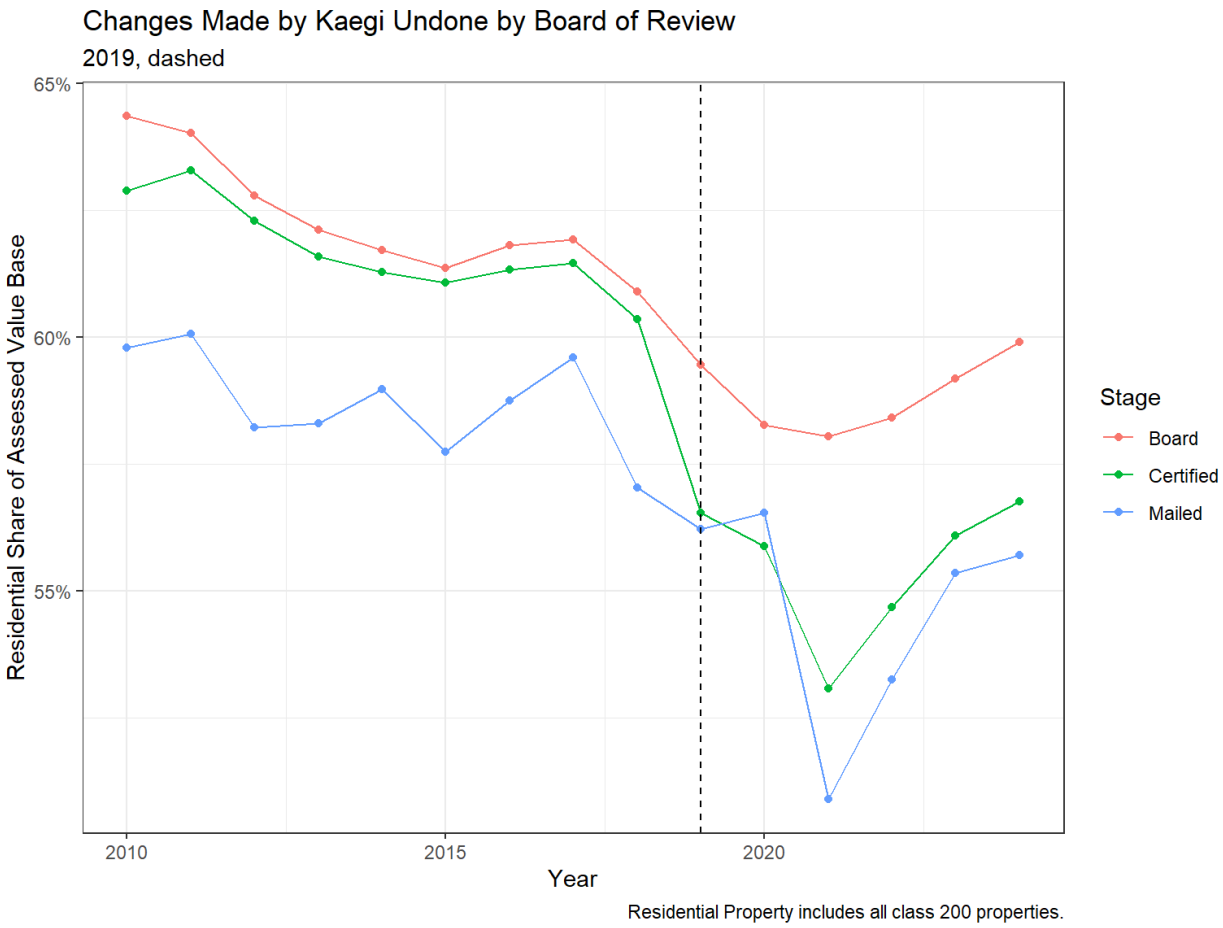

Figure 5A: Residential Share of Assessed Value at Different Stages

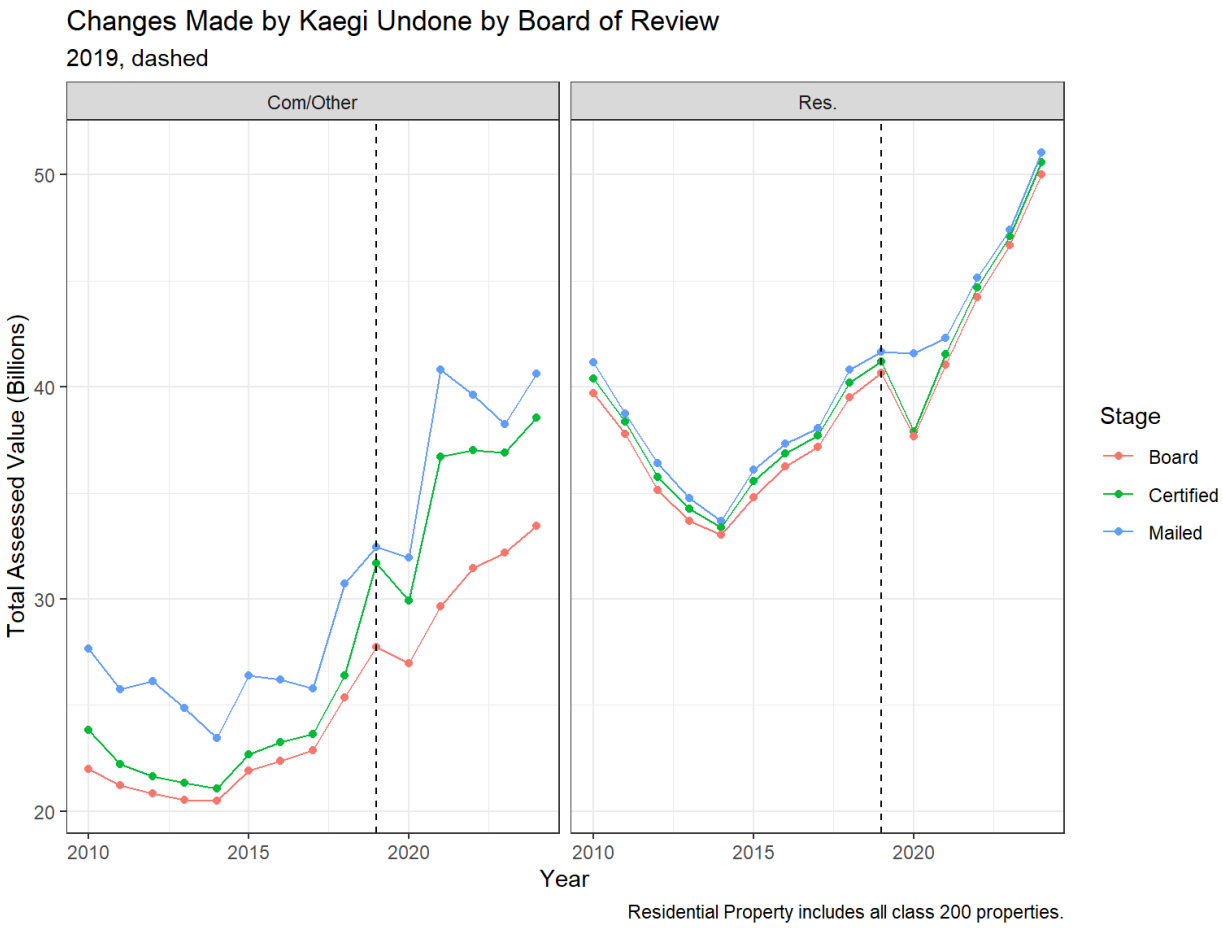

Figure 5B: Total Assessed Value at Different Stages

Data & Methodology

Data was sets were obtained from the Cook County open data portal, including the Assessor Parcel Sales, Assessed Values, and Parcel Universe datasets. Data was accessed in July 2025. Additionally, historic data from PTAXSIM, a R package released by the Assessor, was used. Properties were included in the study if they sold in transaction for more than $20,000, excluding deeds and transaction types which are not arm's length transactions, and had a property class of 202 through 212, 234, 278, 295, or 299 at the time of sale. Sales were matched to the mailed assessed values, which are the assessed values before either the Assessor or Board of Review appeals stage.

Sales are included in the ratio study if meeting the following conditions: sale price was less than $10 million, only the highest value sale is included in a given year if the property sold more than once, and the property is determined to be arm's length from the standard of International Association of Assessing Officer's ratio standards. Properties assessed at less than $2,000 or with a sales ratio of below 0.01 are also excluded.

Replication materials are available on the Mansueto Institute's GitHub page: https://github.com/mansueto-institute/BerriosKaegiReport2025/tree/main

About the Author

Christopher Berry is the William J. and Alicia Townsend Friedman Professor at the University of Chicago's Harris School of Public Policy and the College. He is the Faculty Director of the Mansueto Institute for Urban Innovation and Associate Director of the Center for Municipal Finance.

Professor Berry's research interests include American politics, metropolitan governance, municipal finance, and intergovernmental fiscal relations. He is a leading expert on property taxation and creator of *The Property Tax Project*, which evaluates property tax fairness in thousands of jurisdictions throughout the United States. Berry is the author of *Imperfect Union: Representation and Taxation in Multilevel Governments*, winner of the Best Book Award in Urban Politics from the American Political Science Association, and many other scholarly publications.

Professor Berry's research has been featured in the N*ew York Times*, the *Washington Post*, *Bloomberg BusinessWeek*, the *Chicago Tribune, Crain's Chicago Business*, *Last Week Tonight with John Oliver,* and many other outlets.

Professor Berry was elected to the American Academy of Arts and Sciences in 2022.