

**Title: Supplement to “Updated Results on Property Assessment Accuracy, Uniformity and Equity in Philadelphia”.**

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**Objective: *To re-compute Philadelphia’s Coefficient of Dispersion using a definition consistent with the Clifton v. Allegheny County decision.***

**Data:** The analysis presented here uses the exact same data as the analysis in the original report.

**Variable Definitions:** For each transaction, the following variables were computed:

**Assessment Ratio (AR):** The Assessment Ratio of a property is the ratio of each individual property’s assessed value (AV) to its market value (MV)<sup>1</sup>. MV is proxied by the recorded sales price of each property.

$$AR_i = \frac{AV_i}{MV_i}$$

Where:

AV = Assessed Value (determined by the BRT)

MV = Market Value (the arms-length Sales Price)

i=1,2,...,N

N=# of properties=16,890

**Coefficient of Dispersion (COD):** The COD measures the accuracy of a dwelling’s assessment by computing the absolute percentage by which the assessed value deviates from its market value:

$$COD_i = \frac{|AR_i - AR_0|}{AR_0}$$

Where: AR<sub>i</sub> = Assessment Ratio of ith property

AR<sub>0</sub> = Median Assessment Ratio in the taxing jurisdiction

(And | denotes the absolute value operator.)

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<sup>1</sup> Note: The nomenclature used in this document is different than the one used by Philadelphia’s assessing authority, the BRT. In BRT terminology, “Market Value” is the BRT’s estimation of what a property is worth, and “Assessed Value” is “Market Value” times the fractional assessment formula of 0.32. Instead, we use “Assessed Value” to mean the estimated appraisal value set by the assessor, and “Market Value” to mean the actual value the property would transact for under arms-length market conditions.

The AR was computed for each property transaction in the sample. Across all 16,890 properties, the median AR was 34.4615%, and the mean AR was 37.9179%. The median value of 34.4615% was used as the value for  $AR_0$  in the computation of each property's COD. The mean COD is then computed as the average COD across all properties.

### **Citywide Results:**

- In 2003, we computed an average COD of 34.4%, more than double the recommended target. Moreover, only 51.4% of all homes analyzed had a COD of 15% or less.
- With the 2007 data, we computed an average COD of 40.7%. Additionally, only ~35% of all homes analyzed had a COD of 15% or less.
- **Clearly, assessment accuracy in Philadelphia has gotten worse since the original analysis done by the Tax Reform Commission five years ago.**

### **Neighborhood Results:**

We now perform this same analysis by neighborhood. This was done by simply computing the mean COD across all properties in a given neighborhood. Gray neighborhoods indicate neighborhoods in compliance with IAAO guidelines ( $COD \leq 15\%$ ), and green neighborhoods indicating non-compliance ( $COD > 15\%$ ). Darker shades of green indicate higher average CODs. Neighborhoods are labeled with the value of their average COD.

# 2007 COD by Neighborhood

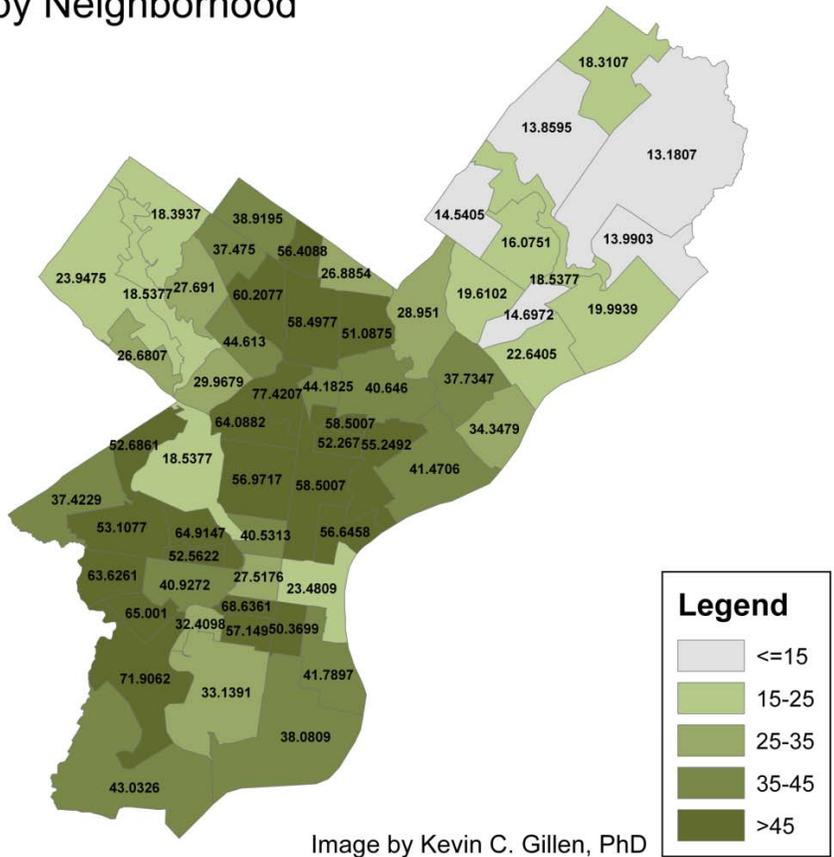


Image by Kevin C. Gillen, PhD