

PHILADELPHIA REAL ESTATE ASSESSMENTS--THE SITUATION IN SPRING 1983

In 1980, the Pennsylvania Economy League published a report on problems with Philadelphia real property assessment practices.* Problems included slow growth in assessed valuations, and great inequities in assessment ratios between different types of property and between areas of the city.

The solution recommended by the Economy League was to initiate immediately the reassessment of all property at a uniform ratio of market value.

The purpose of this brief report is to provide available information on the assessment situation in Philadelphia in 1983. First, however, the report describes the agency responsible for real estate assessments.

The Board of Revision of Taxes

The agency making Philadelphia's real estate assessments is the Board of Revision of Taxes. It has seven members appointed for six-year overlapping terms by the judges of the Philadelphia Common Pleas Court. One of the members is elected by the full membership of the board as its chairman. The board's main responsibilities are making real estate assessments and hearing and deciding upon appeals from taxpayers on the equity of such assessments.

In addition, the board has two other functions. It is responsible for personal property tax assessments, i.e., assessment of intangible personal property (such as stocks, bonds and mortgages) which is subject to the four-mill personal property tax. Members of the board also serve on "Boards of View" which are established in cases involving the taking of private property for public use under the right of eminent domain.

The 1981 Agreement for Reassessment

The city began a citywide reassessment program in 1981. The guidelines for the program were set by a May 1981 settlement agreement in Common Pleas Court.** Under the settlement, the Mayor, the City Council, and the Board of Revision of Taxes agreed that all properties would be reassessed in order to reach a uniform ratio of assessment to market value over a six-year period, starting 1981 and ending 1987.

*Report No. 417, August 1980.

**Court of Common Pleas, Trial Division, in the case of Councilman Joseph E. Coleman, et al. v. William J. Green, Mayor of the City of Philadelphia, et al., Settlement Agreement, April Term, No. 228.

Exhibit I

EXAMPLE OF LIMIT ON ANNUAL INCREASES IN ASSESSMENTS, AS PROVIDED IN THE 1981 SETTLEMENT AGREEMENT (Coleman v. Green, April Term, No. 228, 1981)

Limits--Alternative maximum annual increase in assessments	Example of impact on property with 1981 market value of \$30,000 and assessed at \$6,000 (20% ratio)
a. 5% of property's 1981 market value	a. 5% of \$30,000 or \$1,500
or, if lower	or, if lower
b. The percentage increase, not to exceed 15% annually, needed to reach the "existing common level" over six years of the agreement	b. Assuming the "existing common level" is 33%, the goal would be a \$10,000 assessment. This is \$4,000 higher than the existing assessment. The maximum increase permitted would be about \$670 (i.e., \$4,000 divided by 6), or 8.8% a year.*

*If the 1981 assessment had been only \$3,000 (10% ratio) the 15% annual ceiling would permit an increase of only \$450 each year, for a total assessment at the end of six years of only \$5,700 (i.e., \$450 times 6, for a product of \$2,700, plus the beginning assessment of \$3,000). The \$5,700 assessment would still be far short of the \$10,000 assessment goal needed to reach the existing common level.

However, the agreement set several upper limits on annual increases. For individual properties, the maximum increase was limited to the lesser of (a) 5% of that property's 1981 fair market value or (b) the percentage increase--not exceeding 15%--needed to reach the "existing common level ratio" by the end of the six-year period. Examples of the application of these limits are shown in Exhibit I.

As shown in the note to Exhibit I, with a maximum of 15% annual increases in assessments, some properties--those with very low assessment ratios--cannot reach the common level ratio in six years--by 1987.

Moreover, the agreement also provided that "in no event shall the unweighted average increase for all reassessments in any year exceed 10%." The "unweighted average for all reassessments" is calculated by summing the percentage increases of each of the reassessments and then dividing by the number of reassessments.

The Uniform Ratio of Assessment to Market Value

As noted above, the 1981 agreement set the goal of establishing a uniform ratio of assessment to market value by 1987. As a definition of the goal, the agreement applied the phrase "existing common level ratio"--a phrase used in several assessment cases decided by the Pennsylvania Supreme Court. The court has held that where no fixed ratio is applied in a taxing district, and the assessment-to-sales ratios vary widely, an average of such ratios may be considered the "common level."

However, there are different ways to calculate an average ratio, and experts disagree as to which is the best way. In common usage, the term "average" is generally restricted to the mean (or arithmetic mean). There are different ways to calculate this, such as a weighted mean or an unweighted mean. Moreover, statisticians often apply the term average to other measures of central tendency, such as the median (the midpoint) and the mode (the most frequent value). As an example of different methods, Exhibit II shows the weighted mean, the unweighted mean, and the median for a hypothetical group of five property sales.

For Philadelphia, the Board of Revision uses a complicated process to compute the "average level ratio" from assessment and sales data. The process accords with the method set forth in an assessment appeals case decided by the Pennsylvania Supreme Court in 1981.*

The method involves several steps, including stratification of the sales and assessment data by major use-type (e.g., residential, commercial) and calculating the unweighted mean ratio for each type. (The details of the methodology are set forth in the court decision.)

These are the common level ratios used by the Board of Revision in each year's reassessment efforts:

1981	.33
1982	.36
1983	.35

*Keebler Company v. The Board of Revision of Taxes, et al. 196 Pa. 140 (1981).

Exhibit II

DIFFERENT WAYS TO EXPRESS AVERAGE*ASSESSMENT RATIO

Although there is only one way to express the assessment/sales ratio for an individual property, there are different ways to express the "average" ratio for a group of properties. The following hypothetical figures on five sales illustrate the different ways.

<u>Property</u>	<u>Assessment</u>	<u>Sales price</u>	<u>Assessment/ sales ratio</u>
I.	\$15,000	\$20,000	.750
II.	10,000	25,000	.400
III.	10,000	30,000	.333
IV.	20,000	80,000	.250
V.	<u>20,000</u>	<u>100,000</u>	.200
Total	\$75,000	\$255,000	

One average is computed by dividing the sum of the assessments (\$75,000) by the sum of sales prices (\$255,000). This may be called a weighted mean or average since the contribution of each sale to the average depends on the assessment and sales price of each property. The result is a ratio of .294.

Another average is computed by dividing the sum of the assessment ratios (1.933) by the number of properties sold (5), to arrive at a ratio of .387. This may be called an unweighted mean or average, since the ratio for each property sale is given equal weight.

Another average is the median, or midpoint of the assessment ratios; in the illustration, the midpoint is .333.

Thus, three different ways to express the "average" assessment ratios for the group of five properties are:

Weighted mean:	.294
Median:	.333
Unweighted mean:	.387

Opinions differ as to which is the most appropriate measure. However, it is important for comparisons with other groupings that the same type of measure is used for each grouping.

*In common usage, the term "average" is often restricted to the mean. However, statisticians also apply the term to other measures of central tendency of grouped data. Such measures include the median and the mode.

Number of Properties Reassessed in 1981 and 1982

Philadelphia has about 558,000 taxable properties. In 1981, the first year of the reassessment program, assessments were changed on 103,000 properties--86,000 were increased, and 17,000 decreased.

In the second year (during 1982) changes were made in the assessments of 363,000 properties. (The board said it reviewed the assessments of all 558,000 properties.) Increases were made in 312,000 assessments, and 51,000 had their assessment lowered.

Although increases far outnumbered decreases, in dollars there was less of a difference. In 1982, there were increases of \$298 million and decreases of \$220 million. Thus, the average increase (\$954) was much less than the average decrease (\$4,294).

Growth in Total Assessment--1981 and 1982

The 1980 PEL report pointed to the slow growth in Philadelphia's taxable assessments for a number of years. So far, the reassessment program has done nothing to change this substantially, as shown in Exhibit III.

The assessments made in a given year are certified by the Board of Revision of Taxes in January of the following year. For example, the 1982 assessments were certified on January 25, 1983. As shown in Exhibit III, taxable assessments grew by 1.3% in 1982, somewhat higher than the 0.2% increase of 1981. Taxable assessments reached \$5,945 million in 1982.

A factor, although not the major one, in the slow growth of taxable assessments is a 1978 ordinance which authorizes the five-year tax exemption of new commercial and industrial construction. By 1982, such exemptions totalled \$233 million. Without these exemptions, the average annual growth in assessments would have been a bit higher--1.8%, rather than 1.1% between 1978 and 1982, as shown in Exhibit III.

Studies of Assessment/Sales Ratios

Studies of assessment/sales ratios are the basis for evaluating the equity and uniformity of assessments. To be valid, such studies must be limited to bona fide sales--those conducted at arms length. Thus, it is necessary to exclude transactions which would appear not to reflect market value--e.g., intrafamily sales, sales involving government acquisition of property and others. Moreover, sales with very extreme ratios of assessment to sales price should be excluded, on the grounds that these may indicate that there have been significant changes in a property between the assessment date and the sales date (e.g., either improvements were made to the property or it suffered destruction from fire or other reasons.) There are differences of opinion among experts, however, as to which sales to exclude, as stated in the Keebler court case.

Exhibit III

CITY OF PHILADELPHIA REAL ESTATE ASSESSMENT--TAXABLE PROPERTIES AND EXEMPT COMMERCIAL AND INDUSTRIAL PROPERTIES: ASSESSMENTS CERTIFIED 1979-1983 (dollar amounts in millions)

Assessment year*	Taxable		Five-Year exempt**	Taxable plus five-year exempt	
	Amount (1)	Percent increase (2)		Amount (4)	Percent increase (5)
1978	\$5,656.3	0.5	3.0	\$5,659.3	0.5
1979	5,705.2	0.9	34.3	5,739.5	0.9
1980	5,855.4	2.6	98.4	5,953.8	3.7
1981	5,867.6	0.2	168.0	6,035.6	1.4
1982	5,945.3	1.3	232.9	6,178.2	2.4

*Certified January 25 of the following year.

**Commercial and industrial improvements exempted for five-year periods as provided under a 1978 city ordinance.

Once it has been determined which sales to include in the comparison, there are different ways to express the "average" assessment/sales ratio in the jurisdiction, as explained earlier in Exhibit II. Three principal measures are the weighted mean, the unweighted mean, and the median. Some studies show all three. Examples are the U.S. Bureau of the Census studies, included in its census of government publications on taxable property values and assessment/sales price ratios.*

Since 1959, the City of Philadelphia has conducted studies of assessment to sales ratios. The results of the studies are shown in terms of the weighted mean ratios for various categories, including the city as a whole, types of property, and city wards.

The 1980 PEL study used the city's figures for 1978 in reporting on the lack of uniformity of assessment ratios in the city. The figures for 1982 recently became available, and are compared below with the ones for 1978.

As noted above, the figures on assessment/sales ratios in a given year give a reading as to the assessments for that year, but which are certified in January of the following year. For example, the latest figures (published in 1983) show the assessment/sales ratios for 1982, based on 1982 sales prices, and on the assessments made in 1982 but certified in January 1983.

Narrowing the Spread in Assessment Ratios

The figures calculated by the city show assessment ratios for different types of properties, for the city as a whole, and for city wards.

Types of properties. The average assessment ratios for 1978 showed a wide spread for different types of property, ranging from .296 for private residential to .582 for industrial. As shown in Exhibit IV, this spread was reduced in 1982, when the range was from .263 for private residential to .377 for industrial.

City wards. One way to examine disparities among the city's 66 wards is to look at the deviation from the median. It is impractical to maintain all assessments in the exact relationship to selling price. A deviation of plus or minus 20% is sometimes considered a reasonable range. The situation for the city's 66 wards, based on studies reflecting the 1978 and 1982 assessments, is also shown in Exhibit IV.

As to residential assessments, there was a reduction in the number of sales which had assessment ratios which deviated more than 40% from the median for all wards. In 1978, there were 21 wards with such deviations; the number was reduced to 11 in 1982. Exhibit V shows the figures for the individual wards in 1978 and 1982. The 1982 ratios are also compared with the 1978 ratios in Exhibit V.

*See U.S. Bureau of the Census, 1977 Census of Governments, Volume 2 Taxable Property Values and Assessment/Sales Price Ratios (issued November 1978), Table 19.

Exhibit IV

COMPARISON OF SUMMARY DATA ON ASSESSMENT TO SALES RATIOS, 1978 and 1982

A. City-wide assessment/sales ratios by type of property

Type of property	Mean (weighted)	
	assessment	ratio
	1978	1982
1. Private residential	.296	.263
2. Apartments and hotels	.394	.271
3. Stores and dwellings	.400	.284
4. Commercial	.528	.265
5. Industrial	.582	.377
6. Vacant ground	.325	.264

B. Distribution of assessment/sales ratios by wards, for residential sales

	Number of wards	
	1978	1982
More than 40% above the median ward	18	10
20% to 40% above the median ward	4	11
Within range of 20% of the median ward	35	38
20% to 40% below the median ward	6	7
More than 40% below the median ward	3	0
Total wards	66	66

Assessment/sales ratio of the median ward .327 .276

C. Distribution of assessment/sales ratios by wards, for all types of sales

	Number of wards	
	1978	1982
More than 40% above the median ward	15	8
20% to 40% above the median ward	6	10
Within range of 20% of the median ward	30	40
20% to 40% below the median ward	12	8
More than 40% below the median ward	3	0
Total wards	66	66

Assessment/sales ratio of the median ward .381 .289

Source: City of Philadelphia, Office of Director of Finance.

As to assessments for all types of properties, there was also some narrowing of the spread, with fewer wards in 1982 having ratios which deviated by more than 40% from the citywide median. This is also shown in Exhibit IV.

The Board's Figures on 1982 Assessments

The Board of Revision has prepared figures for 1982 real estate assessments (certified in 1983), showing the relationship of assessed value to the Board's estimated market value for each ward. (The figures were published in the March, 1983 Philadelphia Department of Revenue Newsletter.) According to the figures, the median ward has an assessment/sales ratio of .316, and the wards are distributed as follows in relation to the median.

All assessments	Ratio range	Number of wards
More than 40% above the median	over .442	0
20% to 40% above the median	.379-.442	6
Within range of 20% of median	.253-.379	54
20% to 40% below the median	.190-.253	5
More than 40% below the median	under .190	1
Median	.316	66

There is obviously much less deviation from the median in these figures prepared by the board than in the figures from assessment/sales studies for 1982 summarized in Exhibit IV. Further studies of the ratio of assessments to sales will be needed in order to judge whether the board's estimates of market value in each ward are borne out by actual sales.

Budget and Staffing Changes

The city's Office of the Director of Finance engaged the International Association of Assessing Officers (IAAO) to study the administration of the assessment function by the Board of Revision of Taxes. The IAAO report,* issued in 1981, made 58 recommendations on a variety of subjects, including the organization, staffing and procedures of the board. The report said increased levels of funding, staffing, and computer support were desirable.

Details on the implementation of IAAO recommendations are not readily available. However, budget documents show increased funding and staffing of the board:

	Actual fiscal 1981	Estimated fiscal 1983	Increase
<u>Appropriations</u>			
City	\$2,848,000	\$4,327,650	
School	1,341,292	1,375,700	
Total	\$4,189,292	\$5,703,350	36%
<u>Staffing</u>			
City employees	127	178	
School district employees	84	86	
Total	211	264	25%

Thus, appropriations increased by 36% between fiscal 1981 and fiscal 1983; the number of employees increased by 25%.

* Evaluation of the assessment practices of the Philadelphia Board of Revision of Taxes. Chicago, May 14, 1981.

Exhibit V

PHILADELPHIA ASSESSMENT/SALES RATIO FOR RESIDENTIAL PROPERTY, FOR
THE 66 CITY WARDS: 1978 AND 1982 COMPARED

Ward	1978 Ratio	1982 Ratio	1978 Rank No.*	1982 Rank No.*	Ward	1978 Ratio	1982 Ratio	1978 Rank No.*	1982 Rank No.*
1	29.8%	21.5%	43	62	34	30.9%	24.7%	39	46
2	20.6	19.6	63	65	35	25.4	21.9	59	60
3	50.2	35.9	11	16	36	49.6	36.1	13	15
4	50.1	35.5	12	17	37	88.0	63.2	1 High	2
5	32.7	27.1	33 Med.	35	38	28.8	24.1	47	51
6	69.4	40.1	5	10	39	23.9	28.9	61	30
7	48.1	37.5	17	12	40	36.4	33.0	27	22
8	31.1	24.8	37	45	41	24.7	24.2	60	50
9	25.9	19.8	58	64	42	31.3	34.4	35	19
10	33.7	27.3	31	34	43	52.2	50.1	10	4
11	75.1	46.5	4	5	44	53.9	55.1	9	3
12	45.1	30.2	20	28	45	30.4	36.8	41	13
13	47.2	33.7	18	20	46	31.1	32.5	37	25
14	34.4	27.6	28	37	47	64.1	93.4	6	1 High
15	17.4	23.3	65	55	48	32.2	32.7	34	23
16	63.5	41.5	7	8	49	38.6	36.7	24	14
17	40.8	31.0	22	26	50	30.9	23.3	39	55
18	44.8	28.6	21	31	51	48.8	38.2	15	11
19	77.8	45.9	2	6	52	37.7	26.4	26	39
20	38.3	29.6	25	29	53	27.4	23.9	52	52
21	19.4	19.4	64	66 Low	54	28.2	24.6	49	48
22	29.7	25.6	44	44	55	26.8	22.7	55	57
23	33.8	27.6	30	33 Med.	56	26.9	22.5	54	58
24	45.7	32.6	19	24	57	26.4	24.6	57	48
25	33.6	26.0	32	42	58	27.6	23.0	50	56
26	22.1	20.4	62	63	59	38.6	28.0	24	32
27	30.2	21.6	42	61	60	48.6	34.6	16	18
28	75.2	44.7	3	7	61	30.6	26.6	40	38
29	48.9	33.1	14	21	62	27.3	24.4	53	49
30	29.4	25.8	46	43	63	17.1	22.3	66 Low	59
31	34.3	30.2	29	28	64	26.4	23.3	57	55
32	62.4	41.3	8	9	65	27.5	26.1	51	41
33	29.4	27.0	46	37	66	28.4	26.3	48	40

Med = Median

* Ranked high to low.