# Real Estate <u>Re-Re-Re-Re</u> Assessment in Allegheny County

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#### **A Presentation**

## Civil and Environmental Engineering Carnegie-Mellon University Seminar Series

**4 PM** 

Friday, December 2, 2005 Room 125C Porter Hall

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#### Introduction

- Disclosures
  - Refugee from City of Pittsburgh, Reside in Westmoreland County
  - Homeowner, Taxpayer
  - Tax Policy Researcher
  - Advisor/Public Commentator
  - Call them as I see them
  - CMU has had Long Involvement in Property Tax Reform:

Richard Longini (CIT) Toby Davis (SUPA)

- 2 Policy Hobbies:
  - Get Mark Roosevelt to Listen (Increasingly difficult)
  - Reform Real Estate Assessments in Pennsylvania (A Life's Work?)

#### **Goals of Presentations**

- Provide a simple framework and analysis of assessment situation
- Pose and Answer some key questions about situation here
- Examine some interesting and troubling data about assessments

### Assessing Per Se

- Idea is to determine what each taxpayer owns, fairly measured at market value
- Apply 1 tax rate to all of the list
- Collect the tax to pay for needed local services
- Simple? Should be.
- Expensive? Yes (\$25/property in Cuyahoga County vs. \$15/property in Allegheny County)
- Controversial? Of course
- County Executive's World is Different: he wants property tax to be no different next year from this year

#### What's a Good Assessment Administration? Intuition

- Everybody's property is on the list
- The property's value is fairly measured
  - Pa. Standard: "Actual Value"
- The assessment is current and not 100 years out of date

- The underlying information about the property is accurate
  - The land area is correct

The building(s) are properly described

#### What's A Bad Assessment?

- Not all the taxpayers are on the list
- Not all the properties are on the list
- Taxpayers are misclassified as exempt when they are taxable
- The valuations of the property are mostly very old
- The valuations for newly sold properties are accurate
- Unsold properties' assessed values are stagnant
- 2 identical properties thus have different assessed values and are thus non-uniform (violating the Constitutional uniformity requirement).

## How does one measure assessment quality?

#### **Two Issues:**

- 1. The *Level* of Assessments chosen by political leaders (e.g. 25%, 100%) compared to what actually is observed (so-called predetermined ratio)
- 2. The Variability in the assessments compared to a standard of value:
- Market value (e.g., Sales Price)
- Cost or Replacement Cost
- Capitalized Income from income producing property (apartments)

Note that assessed value (A) is the prediction of what a property would sell for by the assessor

• Compare actual sales price, (P), to the prediction by calculating the ratio:

 $(A/P)_i$ 

If the distribution of A/P is tight (each should all be 100%) then high quality is achieved. If the distribution is disparate, then low quality is achieved.

Coefficient of dispersion (COD) compares A/P to the median of the distribution of A/P and is analogous to the coefficient of variation (CV):

$$COD = \frac{100}{Median_{A/P}} * \left( \frac{\sum_{i=1}^{n} |(A_i / P_i) - \text{Median}_{A/P}|}{n} \right)$$

$$CV = \sigma / \mu$$

The usual standard is that COD should be less than 15%.

In Pennsylvania, how close the actual assessment ratio is to the one chosen by elected county officials impacts on whether or not a judge can find the assessment *system* deficient. An appeal can be based on a few comparable properties, but for a judge to overturn a *system* requires a finding that the Common Level Ratio is more than 15% different than the predetermined ratio.

The Pa. State Tax Equalization Board compares the Common Level Ratio to the Predetermined Ratio.

Each year, each county sends property sales data to STEB which computes and reports the Common Level Ratio. A 15% variance or greater gives strong appeals rights to property taxpayers.

See Table 1

Table 1
Independent Evidence on Assessment Level in Allegheny County

Sales Ratio							2006 CLT	Uncertified
Analysis	2000	2001	2002	2003	2004	2005	withdrawn	2006
Allegheny								
County								
Predetermined								
Ratio:	25.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
85% of								
Predetermined								
Ratio:	21.3%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
State Tax								
Equalization								
Board Common								
Level Ratio								
(CLR)	18.8%	94.0%	97.5%	93.9%	91.3%	NA	NA	NA
Independent								
Analysis I								
Median Taxable								
Residential								
Ratio: \$10,000								
Cutoff			92.4%		83.6%	80.8%	93.8%	81.0%
Number of Sales								
Used			17,423		22,782	17,635	17,774	17,774
Year of Sales			,		,	,	,	,
Used			2002		2004	2005	2005	2005
					2001			2000
Independent								
Analysis II								
Median Taxable								
Residential								
Ratio: \$5,000								
Cutoff			93.0%		84.2%	81.7%	94.9%	81.9%
			75.070		01,270	01.170	7 1.7 /0	01.0
Number of Sales			10.070		00.710	10 401	10.520	10.720
Used			18,059		23,712	18,421	18,530	18,530
Year of Sales			2002		2004	2005	2007	2007
Used			2002		2004	2005	2005	2005

Sales Ratio Analysis	2000	2001	2002	2003	2004	2005	2006 CLT withdrawn	Uncertified 2006
		I			•	I	I	
Independent								
Analysis III								
Median Taxable								
Residential								
Ratio: \$1,000								
Cutoff			93.8%		85.0%	83.4%	93.7%	83.6%
Number of Sales								
Used			18,842		24,575	19,717	19,826	19,826
Year of Sales								
Used			2002		2004	2005	2005	2005

Source: STEB website, Author's calculations of merged 2002/2005/scraped datasets.

#### What Controls Assessment Law in Allegheny County?

State Home Rule Charter Law State Second Class County Assessment Code and State General Assessment Code Allegheny County Ordinances

Judicial Decisions in Court of Common Pleas, Commonwealth Court

- Act 146, County Home Rule Charter Law for Allegheny County
- Judge Friedman held that "substantive changes in assessment" are beyond the scope of the County
- Result: Second Class County Assessment Code and General County Assessment Law are controlling
- Local Organizational Changes are Allowed
- County Executive and County Council continue to pass ordinances that are being challenged in local court over what is permissible, and what is not.
- Pa. Constitution has a very tough requirement that taxation be uniform within the taxing jurisdiction, but application requires that the assessment scheme be facially non-uniform (sliding cap), or empirically fails the STEB test.

Note: Best practice usually separates the assessment and appeals function from the Executive and Legislative functions. Allegheny Home Rule put them under The County Executive. Chief Assessor NOT independent.

#### What's been happening here?

- In late 1970's taxpayers sued and won; issue was non-uniform assessments
- Judge took over process, ordered massive reassessment
- Assessment quality depreciated in 1980's
- Note that the STEB Common Level Ratio law was enacted in 1982
- In late 1990's, taxpayers sued and won; issue was non-uniform assessments and the illegality of the freeze
- Reassessments were court ordered, but botched in 2001, 2002

 Reassessment was bitter campaign issue and County Executive Jim Roddey lost to County Controller Dan Onorato

## What's Been Happening in 2005 in Allegheny County?

- •County hired CLT to do new assessment numbers in 2004 to be reviewed and appealed in 2005, used for tax bills in 2006
- County Chief Assessor Stated that CLT assessments proposed for 2006 met international standards of quality
- County Executive Onorato didn't like the way they looked one weekend, declared the total 19% growth should be limited to 1-2-3-4%
- March 15, 2005 County Council passed the 1-2-3-4% Plan, Signed Shortly Thereafter
- Litigation was filed by Stow-Rox School District
- June, 2005 Judge Wettick issued an opinion and court order; the order struck down key parts of the March, 2005 ordinance while the opinion was much broader and critical.

## October, 2005 Assessment Ordinance

- Base Year of 2002
- Trending to 2005 in unknown way
- Nobody will pay too much more
- Some will pay less
- Some Are Suing: Yesterday Upper St. Clair School District and Upper St. Clair Municipality sued. 3 Law suits now.

#### Where's the Data on this?

- County Web site allows one to look at it property by property by location, name
- Dan promised data for everybody in March, 2005, Nobody got it
- Assessments are out on County Web Site, but jump around
- March, 2005 a List and Assessed Values Arrived at my Office on a CD
- What to do? Scrape the Web with the list.

#### What Happened to Coefficients of Dispersion?

- Supposed to be 15% or less
- COD of 2004 assessments 43.8%
- COD of 2005 assessments 40.0%
- COD of old 2006 CLT 40.6%
- COD of new 2005 38.2%
- Assumptions generous:
  - Sales Prices >\$10,000
  - No sales ratio > 10.0

See Appendix Table 7 next page.

Appendix Table 7 CODs for 04-06, Taxable Properties, 0405 Sales Used by SD All Ratios Trimmed back to 10.0, P>\$10,000 2/

		04/05			cod	proposed
Obs	SchoolDistrict	Sales	$cod_04$	cod_05	clt06	cod_06
1	Allegheny Valley	301	30.2	29.1	33.9	29.0
2	Avonworth	395	47.1	38.9	32.9	34.4
3	Baldwin Whitehall	921	22.7	21.6	21.9	21.5
4	Bethel Park	821	22.7	18.2	19.8	16.8
5	Brentwood Boro	292	29.4	28.8	29.0	28.4
6	Carlynton	434	48.7	38.7	50.6	37.7
7	Chartiers Valley	991	35.3	30.1	30.1	29.5
8	City Of Pittsburgh	8,818	56.8	53.3	54.1	50.4
9	Clairton City	217	55.0	54.4	53.2	54.9
10	Cornell	239	45.9	44.7	45.1	37.3
11	Deer Lakes	445	51.6	37.5	42.3	37.4
12	Duquesne City	146	54.2	52.1	51.5	51.9
13	East Allegheny	471	49.2	48.5	46.7	47.3
14	Elizabeth Forward	472	53.1	43.4	51.9	39.1
15	Fox Chapel Area	953	46.7	38.6	42.7	34.8
16	Hampton Township	546	35.2	31.4	32.8	30.3
17	Highlands	598	45.2	44.6	45.3	43.1
18	Keystone Oaks	622	29.3	30.5	29.0	29.8
19	McDonald	6	115.1	115.1	82.2	108.3
20	McKeesport Area	846	53.7	53.6	50.9	52.8
21	Monroeville Gateway	822	41.1	35.5	32.8	35.4
22	Montour	779	36.7	32.4	31.8	32.0
23	Moon Area	956	38.6	35.7	33.4	33.4
24	Mt Lebanon	1,021	23.5	21.4	22.4	19.9
25	North Allegheny	1,565	26.5	24.0	23.8	23.8
26	North Hills	1,205	26.6	26.5	24.4	25.5
27	Northgate	378	36.6	33.5	38.1	29.3
28	Penn Hills Twp	1,325	39.6	35.7	39.7	34.7
29	Pine-Richland	835	47.1	35.9	40.0	32.5
30	Plum Boro	690	36.5	37.6	32.9	34.7
31	Quaker Valley	546	36.2	30.3	38.1	28.8
32	Riverview	265	34.2	37.0	33.2	31.8
33	Shaler Area	1,103	35.4	32.9	32.9	32.4
34	South Allegheny	343	47.0	47.0	48.0	46.8
35	South Fayette Twp	687	46.1	36.4	36.8	36.0
36	South Park	382	40.0	27.6	34.5	24.2
37	Steel Valley	409	46.3	46.2	41.5	44.9
38	Sto-Rox	365	55.1	53.4	59.8	52.5
39	Trafford	3	141.6	141.6	112.8	150.9
40	Upper St Clair	605	24.5	24.6	22.9	24.3
41	West Allegheny	809	50.4	36.6	41.6	36.2
42	West Jefferson	582	46.5	46.1	42.8	45.1
43	West Mifflin Area	535	41.3	40.9	41.4	40.5
44	Wilkinsburg Boro	465	68.9	68.5	64.3	67.6
45	Woodland Hills	1,570	43.4	41.6	43.0	39.9
			=====	=====	=====	=====
	County Wide	36,779	43.8	40.0	40.6	38.2

<sup>2/</sup> d:\assess\2006\_ii\cod\_sd2.sas
Prof. Robert P. Strauss and Xiang Jin
The Heinz School/Carnegie Mellon October 3, 2005

## How Variable are these Assessment Results: 2005 vs 2006 vs CLT?

Table 2

## The Changing Assessments of 49 Top Commercial Office Buildings in the City

	TF 40							
	Top 49 Commercial Properties	Totals:	\$2,302,850,860	\$2,313,668,700	\$2,256,809,160	\$2,637,284,500		16.9%
2005		Source:	March, 2005 CD	March, 2005 CD	Oct 1, 2005 Web	Oct 1, 2005 Web	Difference:	
Rank	Address	Owner Name	Assessed 2005	Proposed 2006 CLT (withdrawn)	Assessed 2005	Proposed Uncertified_0 6	Proposed - 2005	% Differen ce
1	500 GRANT ST	500 Grant St Assoc & Mellon Bank	\$285,824,400	\$142,572,700	\$285,824,400	\$339,124,900	\$53,300,500	18.6%
2	0 PPG PL	MARKET ASSOCIATE S LIMITED PARTNERS HIP	\$185,000,000	<b>\$155,164,700</b>	\$185,000,000	\$222,881,500	\$37,881,500	20.5%
3	600 GRANT ST	600 GS PROP LP	\$160,000,000	\$212,329,900	\$160,000,000	\$192,762,400	\$32,762,400	20.5%
4	1 OXFORD CTR	OXFORD DEVELOPM ENT COMPANY	\$121,000,000	\$116,465,400	\$112,000,000	\$125,514,500	\$13,514,500	12.1%
5	1001 LIBERTY AVE	GRANT LIBERTY DEV GROUP ASSOCIATE S & LIBERTY	\$110,000,000	\$90,949,600	\$110,000,000	\$127,295,300	\$17,295,300	15.7%
6	500 ROSS ST	MELLON BANK N A	\$104,309,700	\$61,141,200	\$104,309,700	\$127,575,500	\$23,265,800	22.3%
7	0 GRANT ST	BUNCHER COMPANY (THE)	\$88,249,200	\$58,834,400	\$88,249,200	\$104,705,900	\$16,456,700	18.6%
8	501 WOOD ST	PGH NATL BANK	\$67,879,500	\$59,269,900	\$67,879,500	\$80,537,700	\$12,658,200	18.6%

	Top 49 Commercial Properties	Totals:	\$2,302,850,860	\$2,313,668,700	\$2,256,809,160	\$2,637,284,500		16.9%
2005		Source:	March, 2005 CD	March, 2005 CD	Oct 1, 2005 Web	Oct 1, 2005 Web	Difference:	
Rank	Address	Owner Name	Assessed 2005	Proposed 2006 CLT (withdrawn)	Assessed 2005	Proposed Uncertified_0 6	Proposed - 2005	% Differen ce
9	625 LIBERTY AVE	LIBERTY AVENUE HOLDINGS LLC	\$67,000,000	\$61,609,300	\$53,000,000	\$54,467,400	\$1,467,400	2.8%
10	120 5TH AVE	PGH NATIONAL BANK TRUSTEE	\$62,791,600	\$62,791,600	\$62,791,600	\$69,679,500	\$6,887,900	11.0%
11	525 WM PENN PL	MELLON BANK N A	\$59,498,700	\$76,401,100	\$59,498,700	\$69,506,400	\$10,007,700	16.8%
12	401 LIBERTY AVE	HERTZ GATEWAY CENTER LP	\$47,000,000	\$93,756,500	\$32,000,000	\$37,382,400	\$5,382,400	16.8%
13	620 LIBERTY AVE	PITTSBURG H NATIONAL BANK	\$47,000,000	\$48,369,000	\$47,000,000	\$55,249,000	\$8,249,000	17.6%
14	210 6TH AVE	ONE OLIVER ASSOCIATE S LIMITED PARTNERS HIP	\$40,000,000	\$54,914,900	\$40,000,000	\$46,728,000	\$6,728,000	16.8%
15	120 5TH AVE	JENKINS EMPIRE ASSOCIATE S	\$39,808,900	\$119,867,300	\$39,808,900	\$46,504,800	\$6,695,900	16.8%
16	6 STANWIX ST	STANWIX STREET ASSOCIATE S LP	\$36,000,000	\$37,982,100	\$36,000,000	\$43,371,500	\$7,371,500	20.5%
17	4 STATION DR	MURAL GEM INVESTORS	\$35,910,000	\$35,789,300	\$35,910,000	\$42,606,500	\$6,696,500	18.6%
18	501 PENN AVE	PENN AVENUE PLACE ASSOCIATE S LP	\$35,835,900	\$52,420,600	\$35,835,900	\$40,160,000	\$4,324,100	12.1%
19	7 STATION DR	PITTSBURG H HOTEL INC	\$34,452,300	\$34,843,800	\$34,452,300	\$39,617,200	\$5,164,900	15.0%
20	527 SMITHFIE LD ST	OLIVER BUILDING L P	\$34,152,000	\$47,329,800	\$34,152,000	\$39,896,400	\$5,744,400	16.8%

	Top 49 Commercial Properties	Totals:	\$2,302,850,860	\$2,313,668,700	\$2,256,809,160	\$2,637,284,500		16.9%
2005		Source:	March, 2005 CD	March, 2005 CD	Oct 1, 2005 Web	Oct 1, 2005 Web	Difference:	
Rank	Address	Owner Name	Assessed 2005	Proposed 2006 CLT (withdrawn)	Assessed 2005	Proposed Uncertified_0 6	Proposed - 2005	% Differen ce
21	530 WM PENN PL	OMNI PITTSBURG H CORPORAT ION	\$33,000,000	\$31,039,200	\$33,000,000	\$39,153,800	\$6,153,800	18.6%
22	30 ISABELLA ST	JACKSON'S ROW HOLDINGS	\$32,025,700	\$16,221,800	\$32,025,700	\$37,997,900	\$5,972,200	18.6%
23	20 STANWIX ST	AETNA LIFE INS CO	\$31,041,700	\$26,820,800	\$23,000,000	\$27,709,600	\$4,709,600	20.5%
24	501 GRANT ST	PITTSBURG H DEBARTOL O HISTORIC ASSOCIATE S	\$30,748,000	\$39,165,600	\$30,748,000	\$35,919,800	\$5,171,800	16.8%
25	201 ISABELLA ST	ALUMINIU M COMPANY OF AMERICA	\$30,000,000	\$37,395,300	\$30,000,000	\$35,046,000	\$5,046,000	16.8%
26	100 S COMMONS	TITLE SERVICES INC	\$29,500,000	\$31,142,200	\$29,500,000	\$34,461,900	\$4,961,900	16.8%
27	310 GRANT ST	GRANT STREET REALTY CORP	\$28,300,000	\$47,004,500	\$28,300,000	\$34,094,800	\$5,794,800	20.5%
28	877 FREEPORT RD	WATER WORKS II	\$26,745,800	\$29,214,000	\$26,745,800	\$29,973,100	\$3,227,300	12.1%
29	623 SMITHFIE LD ST	623 SMITHFIEL D ASSOCIATE S LTD	\$26,223,800	\$27,942,200	\$26,223,800	\$29,100,400	\$2,876,600	11.0%
31	107 6TH ST	FULTON HOTEL DEVELOPE R	\$26,000,000	\$20,918,300	\$26,000,000	\$29,897,800	\$3,897,800	15.0%
32	437 GRANT ST	FRICK LENDER ASSOCIATE S L.P.	\$25,654,600	\$31,962,800	\$25,654,600	\$20,481,000	-\$5,173,600	-20.2%
33	1251 WATERFR ONT PLACE	BUNCHER COMPANY (THE)	\$25,510,000	\$19,523,000	\$25,510,000	\$29,800,800	\$4,290,800	16.8%

	Top 49 Commercial Properties	Totals:	\$2,302,850,860	\$2,313,668,700	\$2,256,809,160	\$2,637,284,500		16.9%
2005		Source:	March, 2005 CD	March, 2005 CD	Oct 1, 2005 Web	Oct 1, 2005 Web	Difference:	
Rank	Address	Owner Name	Assessed 2005	Proposed 2006 CLT (withdrawn)	Assessed 2005	Proposed Uncertified_0 6	Proposed - 2005	% Differen ce
34	1420 CENTRE AVE	URBAN REDEV AUTH OF PGH	\$23,872,800	\$26,409,500	\$23,872,800	\$27,888,200	\$4,015,400	16.8%
35	500 WOOD ST	PITTSBURG H PARKING DEVELOPM ENT CORP	\$22,823,800	\$25,350,800	\$22,823,800	\$26,662,800	\$3,839,000	16.8%
36	2501 E CARSON ST	SOUTH PITTSBURG H LLC	\$22,683,800	\$11,947,400	\$22,683,800	\$25,586,800	\$2,903,000	12.8%
37	436 7TH AVE	KOPPERS BULDING HOLDINGS INC	\$20,250,000	\$35,853,700	\$20,250,000	\$23,656,100	\$3,406,100	16.8%
38	5230 CENTRE AVE	SHADYSID E HOSPITAL	\$19,811,700	\$22,453,000	\$19,811,700	\$28,114,400	\$8,302,700	41.9%
39	0 2ND AVE	BRIDGESID E POINT ASSOCIATE S LTD	\$19,340,000	\$8,064,900	\$19,340,000	\$23,653,700	\$4,313,700	22.3%
40	E CARSON ST	UPMC PRESBYTE RIAN	\$19,304,400	\$23,100,700	\$19,304,400	\$21,422,000	\$2,117,600	11.0%
41	411 7TH AVE	411 SEVENTH AVENUE ASSOCIATE S	\$18,995,000	\$21,015,400	\$18,995,000	\$22,190,000	\$3,195,000	16.8%
42	707 GRANT ST	110 ASSOCIATE S	\$18,091,060	\$49,201,200	\$18,091,060	\$21,134,000	\$3,042,940	16.8%
43	435 6TH AVE	435 SIXTH AVE ASSOCIATE S	\$16,977,700	\$14,048,700	\$16,977,700	\$20,454,100	\$3,476,400	20.5%
44	401 SHADY AVE	KAPLAN IVAN & TRUSTEE	\$16,100,000	\$17,918,700	\$16,100,000	\$18,160,400	\$2,060,400	12.8%
45	0 E CARSON ST	SOFFER SOUTH SIDE WORKS LTD	\$15,867,300	\$9,868,900	\$15,867,300	\$17,781,900	\$1,914,600	12.1%

	Top 49 Commercial Properties	Totals:	\$2,302,850,860	\$2,313,668,700	\$2,256,809,160	\$2,637,284,500		16.9%
2005		Source:	March, 2005 CD	March, 2005 CD	Oct 1, 2005 Web	Oct 1, 2005 Web	Difference:	
Rank	Address	Owner Name	Assessed 2005	Proposed 2006 CLT (withdrawn)	Assessed 2005	Proposed Uncertified_0 6	Proposed - 2005	% Differen ce
46	5 HOT METAL ST	CHALOVIC H JOHN-RON ALD T DUNKEL-D ENNIS E EICHER	\$15,662,100	\$16,837,100	\$15,662,100	\$17,838,300	\$2,176,200	13.9%
47	300 6TH AVE	GUSTINE SIXTH AVENUE ASSOCIATE S LTD	\$15,604,900	\$17,184,900	\$15,604,900	\$17,487,900	\$1,883,000	12.1%
48	601 GRANT ST	GRANT STREET OFFICE CORPORAT ION	\$15,578,000	\$17,051,700	\$15,578,000	\$18,198,200	\$2,620,200	16.8%
49	0 ALLEGHE NY SQUARE	USRA ALLEGHEN Y CENTER BUSINESS TRUST	\$15,426,500	\$16,209,300	\$15,426,500	\$17,852,000	\$2,425,500	15.7%

Author's tabulations of merged dataset.

#### **Further Comment:**

Screen Scraped December 2, 2005 Assessments of Top 50 are identical to October, 2005 Assessments of Top 50

What will matter to the Judge Wettick and the Court of Common Pleas? What controls an overall look at a county's assessment system?

Allegheny County has moved from Market Value to Base Year System

Judge Wettick's last decision, June 2005, was composed of 2 parts:

A broad ranging analysis that is dripping with sarcasm

A very narrow order that invalidates part of the March 15, 2005 ordinance and found facially non-uniform the sliding cap system.

Importantly in my view he did not strike down that portion of the March 15, 2005 ordinance that empowers the Chief Assessor, between re-assessments, to change any assessment for any reason whatsoever.

Question: Is creation of such latitude a mere procedural change or a substantive change prohibited in the earlier Friedman decision?

The most recent ordinance gives the Chief Assessor the same discretionary authority, and while such language can be found in the General Assessment Law, it is not in the 2<sup>nd</sup>Class County Assessment Law which arguably is controlling. For me, this unbridled discretion raises due-process and equal protection issues.

Case law on the interpretation of the base year concept, especially in what value can be used in an appeal, and the particulars of how new construction should be valued, are very complicated. If 2002 is the base year and new construction is not deflated by a reasonable cost-of-construction index, then that would be tantamount to spot assessment which is prohibited by statute and decision.

Were the County's Common Level Ratio under 85%, then Judge Wettick would likely have to order a general reassessment. But the STEB statute doesn't use medians per my earlier analysis.

There are 2 parts of the way the CLR are calculated that are problematical from a policy/intellectual basis:

- The counties self-report the sales data and have an incentive to only trasmit values that are flattering and don't display high variability
- STEB has adopted a bogus statistical procedure of filtering itself that makes the Counties look much better than they are:

Example: 25% predetermined ratio adopted by a county

Step 1: get the mean of sales ratios that are between 1% and 100% e.g. 25% Step 2: create upper and lower bounds from the 25% as:

Lower bound=.2 x 25% = 5% Upper bound=4 x 25% =100%

Step 3: look at the sales ratios that are between 5 and 100%, and get the mean. Step 4: if the mean is within 15% of the predetermined ratio, county is safe,

And Common level ratio can't be automatically used in the appeal

If the Common Level Ratio is off more than 15%, then any appeal can Automatically use the Common level ratio.

### **Are Properties Disappearing from the County Web Site?**

- Judges asked their names be taken off the website
- March CD had 563,450 properties
- Website in early October had 607 FEWER properties
- Of the 607 that disappeared, 556 were listed as taxable
- Puzzling:

320 of 556 had positive assessments in 2005 and 2006 on the mystery CD;

of the 212 with no assessment in 2005, 62 had a positive assessment in 2006.

Table 2
Assessments of 556 Missing Properties
In 2005 and 2006

A > 0 A=0 Total
2005 A>0 320 24 344
A=0 62 150 212
Total 382 174 556

2006

Race and Assessment Ratios in Allegheny County:

Are properties in African American Census Tracts Over-assessed?

#### **Yes**

**Consider the following Regression:** 

Log<sub>e</sub> (A<sub>i</sub>/S<sub>i</sub>) = 
$$\beta_1 + \beta_2$$
 % Black<sub>j</sub> +  $\beta_3$  % Hispanic<sub>j</sub> +  $\beta_4$  % Asian<sub>j</sub> +  $\beta_5$  Owner-Occupied<sub>i</sub> +  $\beta_6$  P<sub>i</sub> +  $\epsilon_i$ 

where % white is the omitted category, and P is the predicted value of sales price from the equation:

$$P_i = \Pi_1 + \Pi_2$$
 Living Area<sub>i</sub> +  $\Pi_3$  Land Area<sub>i</sub> +  $\xi_i$ 

Data on ethnicity of ownership is estimated by the Census Tract in which the property lies.

Strauss and Strauss(2003) found that the elasticity of percent African American with respect to the Assessment to Sales Ratio was +.47, holding constant the sales price.

One can view such differences by race, given a constant millage, as a "taking."

Such differences, using the same methodology, led to the US Department of Justice and the NY Attorney General joining the NYC ACLU in a suit against Nassau County, NY that was settled to the plaintiff's Satisfaction.

Table 3

Two State Least Squares Estimates of
Explanation of Assessment Value/Sales Price
of Residential Property Sales in Four Urban Jurisdictions for Selected Years
(Sales Price ≥ \$500)

		%	%	%		Predicted			
Assessing		Black*	Hispanic	Asian	Owner *	Sales			
Jurisdiction		In Tract	In Tract	In Tract	Occupied	Price**			Adj.
Year of Sale	Intercept	(0-1.0)	(0-1.0)	(0-1.0)	(1,0)	(\$1,000s)	N	$\mathbb{R}^2$	$\mathbb{R}^2$
Allegheny '02	1.3038	.4785	-1.2578	-1.0540	3042	00000371	13,847	.0098	.0095
t-statistic	27.52	<b>7.15</b>	57	-2.11	-7.23	02	Í		
Baltimore '01	1.7585	.3443	3451	.3014	8070	00124	6,570	.0369	.0361
t-statistic	19.83	<b>5.31</b>	60	.38	-12.11	-3.67	,		
Baltimore '02	1.3541	.2880	-1.0602	8233	4741	00055	5,604	.0919	.0911
t-statistic	31.27	9.08	-3.74	-2.19	-16.00	-3.49	,,,,,,		*** ==
									•
Cuyahoga '01	.4789	0521	2897	1250	1576	00001	16,060	.00254	.000250
t-statistic	42.23	<b>-10.61</b>	-10.9	1.75	-15.26	-1.07	10,000	.00201	.000200
DC '01	.8020	.3709	4987	4967	2100	000007122	4,571	.0753	.07431
t-statistic	14.81	<b>8.10</b>	-4.25	87	-6.92	.26	1,000		
									1
D G (00									
DC '02	.00894	<mark>.6465</mark>	1341	1.0680	.0458	.00080	6,099	.0171	.0163
t-statistic	.07	<b>6.22</b>	53	.89	.69	8.52			

<sup>\*</sup>Owner-occupied defined as single family residence or townhouse

Source: Robert P. Strauss and David A. Strauss (2003), "The Fairness of Urban Real Estate Tax Assessments in Four Urban Counties," *Proceedings* of the National Tax Association, (Chicago, Illinois).

<sup>\*\*</sup>Sales price instrumented by regressing living area, land area, ethnicity and owner

## **Summary and Conclusions**

Assessments in Allegheny County Look Impermissibly below the 85% State Floor

But the STEB Methodology for constructing common level ratio is very forgiving

Assessments in Allegheny County are Highly Variable

Assessments in Allegheny County are Higher for African Americans

**Assessments in Allegheny County Need to be Redone** 

**Existing Assessment Ordinance is vulnerable because:** 

Base Year Concept is not spelled out, new construction and appeals could create spot assessments and invalidate the ordinance which is extremely vague about implementation of the base year concept.

The ordinance makes many substantive changes that are beyond the authority of the Home Rule Charter, and the discretion available to the Chief Assessor is improper, and certainly a substantive change.

Effects by race readily suggest pleading in federal court and use of civil rights laws and decisions. Disparate effects of assessments by race are sufficient, no need to demonstrate intent.

Appendix Table 1 Total Assessed Property by SD, 2005, vs Proposed 2006 (Taxable Properties) 1/

Obs	School District	total05	total06	pct0506
1	Allegheny Valley	\$594,946,612	\$642,049,730	7.9%
2	Avonworth	\$594 <b>,</b> 790 <b>,</b> 878	\$639,036,946	7.4%
3	Baldwin Whitehall	\$1,469,270,780	\$1,562,059,410	6.3%
4	Bethel Park	\$1,934,809,311	\$2,084,069,470	7.7%
5	Brentwood Boro	\$336,960,360	\$359,336,300	6.6%
6	Carlynton	\$559 <b>,</b> 976 <b>,</b> 111	\$593,628,121	6.0%
7	Chartiers Valley	\$1,588,424,224	\$1,699,573,250	7.0%
8	City Of Pittsburgh	\$13,301,290,631	\$14,575,805,393	9.6%
9	Clairton City	\$122,838,550	\$129,195,600	5.2%
10	Cornell	\$297,006,810	\$315,705,560	6.3%
11	Deer Lakes	\$692,139,909	\$733 <b>,</b> 376 <b>,</b> 774	6.0%
12	Duquesne City	\$93 <b>,</b> 196 <b>,</b> 075	\$98,030,435	5.2%
13	East Allegheny	\$515,056,413	\$547,054,475	6.2%
14	Elizabeth Forward	\$701,380,130	\$741,327,805	5.7%
15	Fox Chapel Area	\$2,575,830,947	\$2,790,810,815	8.3%
16	Hampton Township	\$1,188,444,112	\$1,272,667,466	7.1%
17	Highlands	\$679 <b>,</b> 070 <b>,</b> 997	\$717,645,050	5.7%
18	Keystone Oaks	\$1,023,947,602	\$1,101,223,950	7.5%
19	McDonald	\$12,114,240	\$12,648,620	4.4%
20	McKeesport Area	\$808,956,390	\$856,902,515	5.9%
21	Monroeville Gateway	\$2,084,966,416	\$2,292,434,325	10.0%
22	Montour	\$1,975,740,252	\$2 <b>,</b> 137 <b>,</b> 441 <b>,</b> 377	8.2%
23	Moon Area	\$1,750,136,402	\$1,896,896,555	8.4%
24	Mt Lebanon	\$2,176,003,667	\$2,346,558,556	7.8%
25	North Allegheny	\$3,835,227,688	\$4,146,317,617	8.1%
26	North Hills	\$2,210,607,694	\$2 <b>,</b> 388 <b>,</b> 763 <b>,</b> 476	8.1%
27	Northgate	\$401,695,111	\$428,731,000	6.7%
28	Penn Hills Twp	\$1,540,674,166	\$1,634,701,047	6.1%
29	Pine-Richland	\$1,629,538,199	\$1,764,004,015	8.3%
30	Plum Boro	\$1,164,856,288	\$1,239,803,938	6.4%
31	Quaker Valley	\$1,365,365,050	\$1,484,053,455	8.7%
32	Riverview	\$425,976,535	\$453,539,520	6.5%
33	Shaler Area	\$1,633,208,535	\$1,723,635,310	5.5%
34	South Allegheny	\$311,133,319	\$326,202,530	4.8%
35	South Fayette Twp	\$810,353,909	\$867,280,028	7.0%
36	South Park	\$564,913,162	\$601,321,590	6.4%
37	Steel Valley	\$654,057,009	\$705,804,920	7.9%
38	Sto-Rox	\$319,728,857	\$339,086,599	6.1%
39	Trafford	\$2,001,100	\$2,062,300	3.1%
40	Upper St Clair	\$1,642,423,610	\$1,769,172,990	7.7%
41	West Allegheny	\$1,346,178,200	\$1,460,180,212	8.5%
42	West Jefferson	\$1,005,738,811	\$1,075,754,885	7.0%
43	West Mifflin Area	\$1,128,659,608	\$1,224,102,185	8.5%
44	Wilkinsburg Boro	\$370,778,880	\$392,176,190	5.8%
45	Woodland Hills	\$1,739,743,380 =========	\$1,855,857,670 ========	6.7% ====
		\$61,180,156,930	\$66,028,029,975	7.9%

## Appendix Table 2 Total Residential Property by SD, 2005, vs Proposed 2006 ( Taxable Properties) 1/

Obs	SchoolDistrict	total05	Proposed total06	pct0506
1	Allegheny Valley	\$359,798,964	\$379 <b>,</b> 586 <b>,</b> 930	5.5%
2	Avonworth	\$496,610,783	\$531 <b>,</b> 592 <b>,</b> 361	7.0%
3	Baldwin Whitehall	\$1,265,731,640	\$1,336,805,510	5.6%
4	Bethel Park	\$1,485,300,110	\$1,574,171,820	6.0%
5	Brentwood Boro	\$265,119,640	\$279,464,480	5.4%
6	Carlynton	\$428,473,871	\$450,976,261	5.3%
7	Chartiers Valley	\$1,181,161,551	\$1,252,270,661	6.0%
8	City Of Pittsburgh	\$7,336,925,800	\$7,772,588,725	5.9%
9	Clairton City	\$86,783,200	\$89,617,250	3.3%
10	Cornell	\$166,682,660	\$175,975,910	5.6%
11	Deer Lakes	\$533,084,534	\$562,244,854	5.5%
12	Duquesne City	\$57,364,100	\$58,835,000	2.6%
13	East Allegheny	\$358,919,208	\$374,597,130	4.4%
14	Elizabeth Forward	\$587,622,930	\$617,690,495	5.1%
15	Fox Chapel Area	\$2,122,930,843	\$2,288,870,183	7.8%
16	Hampton Township	\$1,033,246,472	\$1,102,042,166	6.7%
17	Highlands	\$521,333,947	\$546,105,890	4.8%
18	Keystone Oaks	\$648,764,477	\$684,540,950	5.5%
19	McDonald	\$10,791,040	\$11,204,420	3.8%
20	McKeesport Area	\$607,800,334	\$634,509,480	4.4%
21	Monroeville Gateway	\$1,081,445,385	\$1,139,183,625	5.3%
22	Montour	\$1,114,643,107	\$1,181,273,007	6.0%
23	Moon Area	\$1,161,046,658	\$1,240,449,755	6.8%
24	Mt Lebanon	\$1,888,580,557	\$2,022,050,906	7.1%
25	North Allegheny	\$3,144,312,031	\$3,368,434,900	7.1%
26	North Hills	\$1,590,236,865	\$1,687,433,126	6.1%
27	Northgate	\$290,899,315	\$306,144,800	5.2%
28	Penn Hills Twp	\$1,293,234,393	\$1,360,505,547	5.2%
29	Pine-Richland	\$1,297,706,717	\$1,396,266,885	7.6%
30	Plum Boro	\$985,711,280	\$1,042,326,210	5.7%
31	Quaker Valley	\$1,141,880,083	\$1,236,199,550	8.3%
32	Riverview	\$320,046,955	\$337,509,240	5.5%
33	Shaler Area	\$1,471,641,639	\$1,552,088,614	5.5%
34	South Allegheny	\$273,386,405	\$284,967,830	4.2%
35	South Fayette Twp	\$647,816,844	\$689,419,883	6.4%
36	South Park	\$515,251,484	\$546,011,220	6.0%
37	Steel Valley	\$351,500,443	\$367,077,500	4.4%
38	Sto-Rox	\$218,376,282	\$228,426,024	4.6%
39	Trafford	\$1,602,100	\$1,640,900	2.4%
40	Upper St Clair	\$1,429,708,170	\$1,525,766,680	6.7%
41	West Allegheny	\$737,794,558	\$784,706,990	6.4%
42	West Jefferson	\$768,490,069	\$812,202,785	5.7%
43	West Mifflin Area	\$604,735,754	\$635,321,120	5.1%
		\$272,947,550	\$283,968,300	
44	Wilkinsburg Boro Woodland Hills			4.0%
45	WOOGIANG MIIIS	\$1,285,566,926 =======	\$1,350,125,390 =======	5.0%
		\$43,443,007,674	\$46,103,191,263	==== 6.1%

Appendix Table 3 Total Non-Residential Property by SD, 2005, vs Proposed 2006 (Taxable Properties) 1/

Obs	SchoolDistrict	total05	total06	pct0506
1	Allegheny Valley	\$235,147,648	\$262,462,800	11.6%
2	Avonworth	\$98,180,095	\$107 <b>,</b> 444 <b>,</b> 585	9.4%
3	Baldwin Whitehall	\$203,539,140	\$225,253,900	10.7%
4	Bethel Park	\$449,509,201	\$509 <b>,</b> 897 <b>,</b> 650	13.4%
5	Brentwood Boro	\$71 <b>,</b> 840 <b>,</b> 720	\$79 <b>,</b> 871 <b>,</b> 820	11.2%
6	Carlynton	\$131,502,240	\$142,651,860	8.5%
7	Chartiers Valley	\$407 <b>,</b> 262 <b>,</b> 673	\$447,302,589	9.8%
8	City Of Pittsburgh	\$5,964,364,831	\$6,803,216,668	14.1%
9	Clairton City	\$36,055,350	\$39 <b>,</b> 578 <b>,</b> 350	9.8%
10	Cornell	\$130,324,150	\$139 <b>,</b> 729 <b>,</b> 650	7.2%
11	Deer Lakes	\$159 <b>,</b> 055 <b>,</b> 375	\$171,131,920	7.6%
12	Duquesne City	\$35 <b>,</b> 831 <b>,</b> 975	\$39,195,435	9.4%
13	East Allegheny	\$156 <b>,</b> 137 <b>,</b> 205	\$172 <b>,</b> 457 <b>,</b> 345	10.5%
14	Elizabeth Forward	\$113,757,200	\$123,637,310	8.7%
15	Fox Chapel Area	\$452,900,104	\$501,940,632	10.8%
16	Hampton Township	\$155 <b>,</b> 197 <b>,</b> 640	\$170,625,300	9.9%
17	Highlands	\$157 <b>,</b> 737 <b>,</b> 050	\$171,539,160	8.8%
18	Keystone Oaks	\$375,183,125	\$416,683,000	11.1%
19	McDonald	\$1,323,200	\$1,444,200	9.1%
20	McKeesport Area	\$201,156,056	\$222,393,035	10.6%
21	Monroeville Gateway	\$1,003,521,031	\$1,153,250,700	14.9%
22	Montour	\$861,097,145	\$956 <b>,</b> 168 <b>,</b> 370	11.0%
23	Moon Area	\$589,089,744	\$656,446,800	11.4%
24	Mt Lebanon	\$287,423,110	\$324,507,650	12.9%
25	North Allegheny	\$690,915,657	\$777 <b>,</b> 882 <b>,</b> 717	12.6%
26	North Hills	\$620,370,829	\$701,330,350	13.1%
27	Northgate	\$110 <b>,</b> 795 <b>,</b> 796	\$122,586,200	10.6%
28	Penn Hills Twp	\$247 <b>,</b> 439 <b>,</b> 773	\$274,195,500	10.8%
29	Pine-Richland	\$331,831,482	\$367 <b>,</b> 737 <b>,</b> 130	10.8%
30	Plum Boro	\$179,145,008	\$197 <b>,</b> 477 <b>,</b> 728	10.2%
31	Quaker Valley	\$223 <b>,</b> 484 <b>,</b> 967	\$247 <b>,</b> 853 <b>,</b> 905	10.9%
32	Riverview	\$105 <b>,</b> 929 <b>,</b> 580	\$116,030,280	9.5%
33	Shaler Area	\$161,566,896	\$171,546,696	6.2%
34	South Allegheny	\$37,746,914	\$41,234,700	9.2%
35	South Fayette Twp	\$162,537,065	\$177,860,145	9.4%
36	South Park	\$49 <b>,</b> 661 <b>,</b> 678	\$55,310,370	11.4%
37	Steel Valley	\$302 <b>,</b> 556 <b>,</b> 566	\$338 <b>,</b> 727 <b>,</b> 420	12.0%
38	Sto-Rox	\$101,352,575	\$110 <b>,</b> 660 <b>,</b> 575	9.2%
39	Trafford	\$399,000	\$421,400	5.6%
40	Upper St Clair	\$212 <b>,</b> 715 <b>,</b> 440	\$243,406,310	14.4%
41	West Allegheny	\$608,383,642	\$675,473,222	11.0%
42	West Jefferson	\$237,248,742	\$263,552,100	11.1%
43	West Mifflin Area	\$523 <b>,</b> 923 <b>,</b> 854	\$588,781,065	12.4%
44	Wilkinsburg Boro	\$97,831,330	\$108,207,890	10.6%
45	Woodland Hills	\$454,176,454	\$505,732,280	11.4%
		\$17,737,149,256	\$19,924,838,712	===== 12.3%

<sup>1/</sup> d:\assess\2006\_ii\danpct1.sas
Prof. Robert P. Strauss and Xiang Jin
The Heinz School/Carnegie Mellon
October 3, 2005

Appendix Table 4 Percentage Changes in Residential Values (Taxable Properties) 1/ median\_ mean\_

Appen	dix lable 4 refeeldage	Changes in Kesi		
			median_	mean_
Obs	SchoolDistrict	n	pct0506	pct0506
1	Allegheny Valley	5,034	5.6%	5.3%
2	Avonworth	4,167	5.7%	6.3%
3	Baldwin Whitehall	14,281	5.7%	5.2%
4	Bethel Park	12 <b>,</b> 978	5.7%	6.6%
5	Brentwood Boro	3,749	5.7%	5.3%
6	Carlynton	6,049	5.5%	5.4%
7	Chartiers Valley	13 <b>,</b> 379	5.7%	18.1%
8	City Of Pittsburgh	128,668	5.3%	4.4%
9	Clairton City	4,715	2.2%	2.1%
10	Cornell	3,386	5.4%	5.3%
11	Deer Lakes	7,702	5.4%	4.6%
12	Duquesne City	3,384	0.0%	1.6%
13	East Allegheny	8 <b>,</b> 540	2.9%	3.3%
14	Elizabeth Forward	9,824	5.1%	5.4%
15	Fox Chapel Area	12,489	5.7%	8.2%
16	Hampton Township	7,643	5.7%	9.2%
17	Highlands	10,079	5.1%	4.1%
18	Keystone Oaks	8 <b>,</b> 475	5.7%	5.4%
19	McDonald	246	2.6%	2.9%
20	McKeesport Area	16,924	2.6%	3.1%
21	Monroeville Gateway	12,602	5.6%	5.0%
22	Montour	11,337	5.7%	5.1%
23	Moon Area	10,318	6.0%	8.5%
24	Mt Lebanon	11,729	6.5%	6.6%
25	North Allegheny	18,963	6.0%	7.5%
26	North Hills	16,837	5.7%	5.8%
27	Northgate	4,524	5.6%	5.4%
28	Penn Hills Twp	20,322	5.4%	4.7%
29	Pine-Richland	8,740	5.7%	11.8%
30	Plum Boro	10,760	5.7%	5.7%
31	Quaker Valley	6 <b>,</b> 393	6.0%	5.6%
32	Riverview	3,617	5.4%	4.9%
33	Shaler Area	18,089	5.7%	4.7%
34	South Allegheny	6,461	5.0%	3.5%
35	South Fayette Twp	6 <b>,</b> 171	5.7%	5.3%
36	South Park	5 <b>,</b> 750	5.7%	5.6%
37	Steel Valley	7,736	4.8%	3.7%
38	Sto-Rox	6 <b>,</b> 205	4.9%	4.3%
39	Trafford	55	2.5%	1.8%
40	Upper St Clair	7,427	6.2%	6.1%
41	West Allegheny	9,429	5.7%	14.0%
42	West Jefferson	8,429	5.7%	4.7%
43	West Mifflin Area	10,362	5.4%	4.4%
44	Wilkinsburg Boro	6 <b>,</b> 975	2.8%	3.3%
45	Woodland Hills	23,716	2.9%	3.5%
	-	=======		

534,659

Appendix Table 5 Percentage Changes in Residential Values (Taxable Properties) 1/ median\_ mean\_

			${ t median}_{-}$	mean_
Obs	SchoolDistrict	n	pct0506	pct0506
1	Allegheny Valley	4,531	5.6%	4.5%
2	Avonworth	3 <b>,</b> 895	5.7%	6.3%
3	Baldwin Whitehall	13,810	5.7%	5.1%
4	Bethel Park	12,339	5.7%	6.4%
5	Brentwood Boro	3,564	5.7%	5.1%
6	Carlynton	5,411	5.6%	4.2%
7	Chartiers Valley	12,471	5.7%	4.9%
8	City Of Pittsburgh	116,395	5.2%	3.9%
9	Clairton City	4,219	2.2%	1.8%
10	Cornell	2,907	5.2%	4.8%
11	Deer Lakes	7,044	5.4%	4.1%
12	Duquesne City	3,124	0.0%	1.1%
13	East Allegheny	7 <b>,</b> 793	2.8%	2.9%
14	Elizabeth Forward	9,095	5.1%	4.9%
15	Fox Chapel Area	11,514	5.7%	8.3%
16	Hampton Township	7,288	5.7%	9.4%
17	Highlands	9,145	5.1%	3.9%
18	Keystone Oaks	7,811	5.7%	5.1%
19	McDonald	234	2.4%	2.7%
20	McKeesport Area	15,485	2.6%	2.7%
21	Monroeville Gateway	11,764	5.6%	4.6%
22	Montour	10,551	5.7%	5.0%
23	Moon Area	9,640	6.0%	8.6%
24	Mt Lebanon	11,335	6.5%	6.4%
25	North Allegheny	18,022	6.0%	6.5%
26	North Hills	15 <b>,</b> 786	5.7%	5.3%
27	Northgate	4,103	5.6%	5.0%
28	Penn Hills Twp	19,560	5.4%	4.6%
29	Pine-Richland	8,138	5.7%	11.8%
30	Plum Boro	10,187	5.7%	5.2%
31	Quaker Valley	5,812	5.9%	5.4%
32	Riverview	3,242	5.2%	4.5%
33	Shaler Area	17,215	5.7%	4.8%
34	South Allegheny	6,111	4.9%	3.2%
35	South Fayette Twp	5 <b>,</b> 794	5.7%	5.3%
36	South Park	5 <b>,</b> 474	5.7%	5.5%
37	Steel Valley	7,035	3.0%	3.3%
38	Sto-Rox	5,447	4.9%	3.8%
39	Trafford	47	2.5%	1.7%
40	Upper St Clair	7,193	6.2%	6.0%
41	West Allegheny	8,531	5.7%	14.2%
42	West Jefferson	7,904	5.7%	4.5%
43	West Mifflin Area	9,750	5.4%	4.3%
44	Wilkinsburg Boro	6,415	2.6%	2.8%
45	Woodland Hills	22,196	2.9%	3.1%
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495,327

Appendix Table 6 Percentage Changes in Non-Residential Values (Taxable Properties) 1/ median\_ mean\_

			${\tt median}\_$	mean_
Obs	SchoolDistrict	n	pct0506	pct0506
1	Allegheny Valley	503	7.7%	12.2%
2	Avonworth	272	6.2%	5.8%
3	Baldwin Whitehall	471	10.9%	7.5%
4	Bethel Park	639	9.9%	9.3%
5	Brentwood Boro	185	11.0%	9.2%
6	Carlynton	638	0.0%	15.0%
7	Chartiers Valley	908	7.3%	199.5%
8	City Of Pittsburgh	12,273	9.9%	9.1%
9	Clairton City	496	6.2%	5.3%
10	Cornell	479	9.9%	8.9%
11	Deer Lakes	658	5.1%	9.8%
12	Duquesne City	260	10.8%	7.5%
13	East Allegheny	747	7.3%	7.3%
14	Elizabeth Forward	729	6.0%	11.2%
15	Fox Chapel Area	975	7.3%	6.3%
16	Hampton Township	355	8.8%	6.6%
17	Highlands	934	8.8%	6.5%
18	Keystone Oaks	664	11.0%	9.2%
19	McDonald	12	8.6%	7.4%
20	McKeesport Area	1,439	9.8%	7.2%
21	Monroeville Gateway	838	10.9%	10.3%
22	Montour	786	9.9%	7.0%
23	Moon Area	678	9.9%	8.1%
24	Mt Lebanon	394	11.0%	10.4%
25	North Allegheny	941	8.1%	26.9%
26	North Hills	1,051	10.9%	13.2%
27	Northgate	421	10.9%	9.1%
28	Penn Hills Twp	762	10.9%	7.6%
29	Pine-Richland	602	7.5%	12.4%
30	Plum Boro	573	8.8%	15.8%
31	Quaker Valley	581	9.9%	8.0%
32	Riverview	375	10.9%	8.4%
33	Shaler Area	874	0.0%	3.7%
34	South Allegheny	350	9.8%	7.2%
35	South Fayette Twp	377	0.0%	4.6%
36	South Park	276	7.3%	7.7%
37	Steel Valley	701	9.9%	7.9%
38	Sto-Rox	758	9.9%	7.5%
39	Trafford	8	0.0%	1.8%
40	Upper St Clair	234	0.0%	7.4%
41	West Allegheny	898	6.0%	12.5%
42	West Jefferson	525	9.9%	6.5%
43	West Mifflin Area	612	9.3%	6.6%
44	Wilkinsburg Boro	560	10.9%	8.6%
45	Woodland Hills	1,520	9.7%	8.0%
		========		

39,332

Appendix Table 7 CODs for 04-06, Taxable Properties, 0405 Sales Used by SD All Ratios Trimmed back to 10.0, P>\$10,000 2/

		04/05			cod_	proposed
Obs	SchoolDistrict	Sales	$cod_04$	$cod_05$	clt06	$cod_06$
1	Allegheny Valley	301	30.2	29.1	33.9	
2	Avonworth	395	47.1	38.9	32.9	
3	Baldwin Whitehall	921	22.7	21.6	21.9	21.5
4	Bethel Park	821	22.7	18.2	19.8	16.8
5	Brentwood Boro	292	29.4	28.8	29.0	28.4
6	Carlynton	434	48.7	38.7	50.6	37.7
7	Chartiers Valley	991	35.3	30.1	30.1	
8	City Of Pittsburgh	8,818	56.8	53.3		50.4
9	Clairton City	217	55.0	54.4	53.2	54.9
10	Cornell	239	45.9	44.7	45.1	37.3
11	Deer Lakes	445	51.6	37.5	42.3	37.4
12	Duquesne City	146	54.2	52.1	51.5	51.9
13	East Allegheny	471	49.2		46.7	
14	Elizabeth Forward	472	53.1	43.4	51.9	39.1
15	Fox Chapel Area	953	46.7	38.6	42.7	34.8
16	Hampton Township	546	35.2	31.4	32.8	30.3
17	Highlands	598	45.2	44.6	45.3	43.1
18	Keystone Oaks	622	29.3	30.5	29.0	29.8
19	McDonald	6	115.1	115.1	82.2	108.3
20	McKeesport Area	846	53.7	53.6	50.9	52.8
21	Monroeville Gateway	822	41.1	35.5	32.8	35.4
22	Montour	779	36.7	32.4	31.8	32.0
23	Moon Area	956	38.6	35.7	33.4	33.4
24	Mt Lebanon	1,021	23.5	21.4	22.4	19.9
25	North Allegheny	1,565	26.5	24.0	23.8	23.8
26	North Hills	1,205	26.6	26.5	24.4	25.5
27	Northgate	378	36.6	33.5	38.1	29.3
28	Penn Hills Twp	1,325	39.6	35.7	39.7	34.7
29	Pine-Richland	835	47.1	35.9	40.0	32.5
30	Plum Boro	690	36.5	37.6	32.9	34.7
31	Quaker Valley	546	36.2	30.3	38.1	28.8
32	Riverview	265	34.2	37.0	33.2	31.8
33	Shaler Area	1,103	35.4	32.9	32.9	32.4
34	South Allegheny	343	47.0	47.0	48.0	
35	South Fayette Twp	687	46.1	36.4	36.8	36.0
36	South Park	382	40.0		34.5	24.2
37	Steel Valley	409	46.3	46.2	41.5	44.9
38	Sto-Rox	365	55.1	53.4	59.8	
39	Trafford	3	141.6	141.6	112.8	150.9
40	Upper St Clair	605	24.5	24.6	22.9	24.3
41	West Allegheny	809	50.4	36.6	41.6	36.2
42	West Jefferson	582	46.5	46.1	42.8	45.1
43	West Mifflin Area	535	41.3	40.9	41.4	40.5
44	Wilkinsburg Boro	465	68.9	68.5	64.3	67.6
45	Woodland Hills	1,570	43.4	41.6	43.0	39.9 ====
	County Wide	36 <b>,</b> 779	43.8	40.0	40.6	38.2

<sup>2/</sup> d:\assess\2006\_ii\cod\_sd2.sas
Prof. Robert P. Strauss and Xiang Jin

The Heinz School/Carnegie Mellon October 3, 2005

#### Appendix Table 9

Table 8: STEB Common Level Ratio Using STEB Methodology for Different Assessment Schemes; 2004 Sales Prices Used

	SchoolDistrict	A_05 CD April, 2005	A_06 CD CLT April, 2005	A_05 SC October, 2005 Screen Scraped	A_06 SC October, 2005 Uncertified, 2006 Values
1	Allegheny Valley	1.0232	1.1334	1.0213	1.1481
2	Avonworth	0.9015	1.0263	0.8730	1.0304
3	Baldwin Whitehall	0.9223	1.0436	0.8557	0.9656
4	Bethel Park	0.8841	0.9989	0.8854	1.0003
5	Brentwood Boro	1.0282	1.1237	0.9491	1.0814
6	Carlynton	0.9038	1.0525	0.8994	0.9850
7	Chartiers Valley	0.8932	1.0203	0.8446	0.9601
8	City Of Pittsburgh	0.9386	1.1019	0.9115	1.0120
9	Clairton City	0.9656	0.9374	0.9319	0.9755
10	Cornell	1.0257	1.1235	0.9555	1.1479
11	Deer Lakes	0.9322	1.0062	0.8677	0.9754
12	Duquesne City	1.0118	1.0809	0.8984	0.9686
13	East Allegheny	0.9391	0.9210	0.8710	0.9388
14	Elizabeth Forward	0.9842	1.0670	0.9160	1.0523
15	Fox Chapel Area	0.9084	1.0438	0.9303	1.0442
16	Hampton Township	0.8631	1.0060	0.8468	0.9678
17	Highlands	1.0404	1.1155	0.9375	1.0460
18	Keystone Oaks	0.8973	1.0585	0.8661	0.9759
19	McDonald	1.0243	0.8655	0.9618	1.0711
20	McKeesport Area	1.0914	1.1239	0.9664	1.1026
21	Monroeville Gatewa	0.8941	1.0345	0.8265	0.9440
22	Montour	0.8869	1.0128	0.8411	0.9564
23	Moon Area	0.9135	1.0062	0.8808	1.0275
24	Mt Lebanon	0.8603	1.0248	0.9002	1.0332
25	North Allegheny	0.8708	1.0062	0.8600	1.0015
26	North Hills	0.8853	1.0221	0.8371	0.9646
	Northgate	0.9893	1.1092	0.9348	1.1064
28	Penn Hills Twp	1.0272	1.1627	1.0013	1.1267
29	Pine-Richland	0.8675	0.9078	0.8715	1.0170
30	Plum Boro	0.9061	1.0376	0.9043	1.0416
31	Quaker Valley	0.8599	1.0132	0.8482	0.9761
32	Riverview	0.9431	1.1565	0.8963	1.0328
33	Shaler Area	0.8757	1.0365	0.8087	0.9130
34	South Allegheny	1.0254	1.1220	0.9289	1.0629
35	South Fayette Twp	0.8551	0.9903	0.8296	0.9662
36	South Park	0.9169	1.0016	0.9256	1.0763
37	Steel Valley	1.0106	1.0512	0.9434	1.0453
38	Sto-Rox	1.0450	1.1761	1.0052	1.1060
39	Upper St Clair	0.8414	0.9812	0.8876	0.9895
40	West Allegheny	0.8892	1.0441	0.8442	1.0274
41	West Jefferson	0.8733	1.0060	0.8488	0.9542

	SchoolDistrict	A_05 CD April, 2005	A_06 CD CLT April, 2005	A_05 SC October, 2005 Screen Scraped	A_06 SC October, 2005 Uncertified, 2006 Values
42	West Mifflin Area	0.9916	1.1301	0.9108	1.0258
43	Wilkinsburg Boro	1.1203	1.0151	0.9871	1.0877
44	Woodland Hills	1.0125	1.1255	0.9542	1.0765
	Total	0.9409	1.0681	0.9055	1.0239

Appendix Table 9 Price Related Differential

Obs	School District	# of Sales	PRD
1	Allegheny Valley	170	1.019
2	Avonworth	211	1.110
3	Baldwin Whitehall	529	1.209
4	Bethel Park	437	1.143
5	Brentwood Boro	165	1.143
6	Carlynton	256	1.190
7	Chartiers Valley	544	1.211
8	City Of Pittsburgh	4966	1.167
9	Clairton City	135	1.233
10	Cornell	143	1.022
11	Deer Lakes	236	1.258
12	Duquesne City	95	1.183
13	East Allegheny	285	1.161
14	Elizabeth Forward	271	1.163
15	Fox Chapel Area	473	1.077
16	Hampton Township	316	1.165
17	Highlands	345	1.196
18	Keystone Oaks	366	1.201
19	McDonald	4	1.013
20	McKeesport Area	536	1.130
21	Monroeville Gateway	501	1.281
22	Montour	419	1.239
23	Moon Area	498	1.178
24	Mt Lebanon	560	1.075
25	North Allegheny	898	1.124
26	North Hills	683	1.181
27	Northgate	197	1.052
28	Penn Hills Twp	759	1.073
29	Pine-Richland	434	1.183
30	Plum Boro	370	1.130
31	Quaker Valley	303	1.149
32	Riverview	148	1.146
33	Shaler Area	623	1.276
34	South Allegheny	205	1.214

35	South Fayette Twp	360	1.269
36	South Park	214	1.101
37	Steel Valley	244	1.188
38	Sto-Rox	195	1.073
39	Upper St Clair	316	1.103
40	West Allegheny	388	1.287
41	West Jefferson	308	1.189
42	West Mifflin Area	307	1.150
43	Wilkinsburg Boro	300	1.157
44	Woodland Hills	900	1.144
	Total	20613	1.160