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In search of an Optimal Revaluation Policy: Benefits and Pitfalls

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ANDREW YOUNG SCHOOL OF POLICY STUDIES

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In search of an Optimal Revaluation Policy: Benefits and Pitfalls[1]

(Preliminary Report)

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Abstract

It is well established that revaluation and the use of current market value in principle as the underpinning for the property tax base will improve the equitable distribution of the property tax between taxpayers. Because the market place is dynamic and ever-changing, and the property tax is an annually recurring tax, it is necessary to establish an ongoing system of periodic revaluation to ensure that the relationships established in an initial appraisal are still accurate. All of this is justifiable from the standpoint of maximizing equity, assuming that equity is defined in terms of maintaining an accurate relationship between the tax and the market value of the underlying property. However, both initial establishment of appraised values and subsequent reappraisal are costly, time consuming endeavors. Depending on the type of property, the extent of the revaluation, and available resources, costs may vary from as little as a few dollars to more than $80 per parcel. In addition, taxpayers often fear that some aspect of tax amount stability and predictability that may have occurred without reappraisal may be lost with it. Also, depending on the underlying taxation system, taxpayers fear that reappraisal means higher taxable values and higher taxes. These factors have lead to a hodge podge of tax and reappraisal policies across the United States. In this paper, we will explore the connections between costs, equity, and taxpayer concerns regarding revaluation and the worsening prospects for successfully reconciling all of these issues in cases where revaluation has been infrequent. We will also attempt to outline features that should be contained within a model policy.

[1] Paper prepared for the Andrew Young School of Policy Studies, Georgia State University and the Lincoln Institute Conference on Property Taxation held at Stone Mountain, Atlanta April 27-29, 2008.

Introduction

In a 1973 article on property tax reform, Representative Wilbur D. Mills of the United States House of Representatives wrote the following regarding the reasons the property tax often is considered unpopular:

> *(1) that the property tax is considered to be among the most regressive of taxes, particularly as it applies to the low income taxpayer; (2) that as property values increase, the tax increases, which means, in effect, that it is a tax on unrealized capital gains – something which does not happen under our income and sales tax laws; and (3) that the administration of property tax laws, based as it is principally on informed estimates of market values, presents a difficult and arbitrary aspect to property tax administration which is absent in the administration of income and sales taxes.*[2]

Reason 1 is beyond the scope of this paper and has been addressed extensively. Reason 2 alludes to rate driven taxation systems which are widely admonished against in professional literature and serve to cast unjustified aspersions over reappraisal.[3] This issue will be expanded upon. Reason 3 suggests a certain vagueness within the appraisal process, based, as it must be, on "…informed estimates…." This cannot be entirely dispelled, but can be quieted through proper application of professional appraisal techniques, as even Representative Mills acknowledged in subsequent, more approving comments about improving administration by:

> *hiring and training competent assessment personnel, by making effective use of computers and other modern equipment in the assessment process, and by disseminating more and better information to the taxpayers concerned.*[4]

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[2] Mills, Wilbur D. *The Federal Government's Role in Promoting Property Tax Reform*. Property Tax Reform – The Role of the Property Tax in the Nation's Revenue System. IAAO. July, 1973.
[3] IAAO. *Standard on Property Tax Policy.* Section 5.2.1. 2004.
[4] Mills, Wilbur D. *The Federal Government's Role in Promoting Property Tax Reform*. Property Tax Reform – The Role of the Property Tax in the Nation's Revenue System. IAAO. July, 1973.

Improvements to property tax administration parallel and include improved professional approaches to reappraisal and alternate reassessment efforts that are less involved than reappraisal but can be quite effective. It is paradoxical, however, that the proliferation of professional appraisal tools and an ever increasing commitment to training and professionalism throughout the appraisal field in recent years have been paralleled by movement away from current market value as the underlying tax base by a growing number of states.[5] Is this trend a reaction to more frequent reappraisal or does it reflect, as one legislator has suggested to this author, a simplistic answer to a complex problem with numerous linkages? This paper will explore the equity benefits of reappraisal and compare these with cost information derived from jurisdictions that were contacted recently and provided such information. We will also review some older cost studies from studies conducted beginning in the late 1970s. In addition, we will explore the many variations of revaluation or reappraisal that exist, will review model assessment and property tax systems, and will suggest features of such model systems that may help sustain and encourage a current market value basis for the property tax.

What is Reappraisal?

Before discussing the benefits of reappraisal, it is useful to understand what is meant by the term. The textbook definition[6] demonstrates the multifaceted nature of the term and its many possible interpretations, each of which have both cost and benefit implications.

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[5] David Baer, for example, notes 20 states and the District of Columbia imposing value increase caps as of 2003. See: Baer, David. *State Programs and Practices for Reducing Residential Property Taxes.* Washington, DC: AARP Public Policy Institute. 2003.

[6] IAAO. Glossary for Property Appraisal and Assessment. 1997. page 116.

> *"The mass appraisal of all property within an assessment jurisdiction accomplished within or at the beginning of a reappraisal cycle…. Also called revaluation or reassessment."*

Looking beyond the term itself and into the subsidiary terms, we find the following:

1. Mass appraisal is the "*…process of valuing a group of properties as of a given date, using standard methods, employing common data, and allowing for statistical testing."*
2. Revaluation is a: "*…reappraisal…, especially a complete reappraisal after assessment for one or more years on valuations most (or all) of which were established in some prior year.*"
3. Reassessment is the: *"relisting and revaluation of all property…by order of an authorized officer or body after a finding…that the original assessment is too faulty for correction through usual procedures of review and equalization."* It also means the: *"…revaluation of all real property by the regularly constituted assessing authorities, as distinguished from assessment on the basis of valuations most or all of which were established in some prior year.*"
4. Assessment is the: *"…value placed on property in the course of such act.*"[7]

The inherent assumption in any reappraisal or revaluation or reassessment is that there is a value previously assigned to property and used as part of a property tax base. Whether that value is market value, value based on last appraisal, or value based on some completely different indicator, the previous value commonly is known as the assessed

[7] Ibid. pages 9, 85, 116, and 122.

value. The question of how this previous value was determined and its basis is crucial, however, to understanding the costs and benefits that may be associated with re-establishing this value in some way – whether through complete reappraisal or through some less intensive and therefore less costly means.

In balancing cost v. benefit, therefore, we must first understand how much reappraisal is needed by exploring the underlying equity, defined as the degree to which assessments bear a consistent relationship to market value[8], and assumed for the purposes of this paper to be fundamentally desirable. Although length of time between reappraisals can be an indicator of lack of equity, the more significant relationships are:

1. the quality of the current assessments or previous appraisals, and
2. homogeneity or heterogeneity of market activity.

Although both of these factors are important, the best underlying previous appraisals will not provide sustainable equity in a market that is changing rapidly and changing differently between neighborhoods or classes of property. Couple these factors with heterogeneity in the underlying property and in physical changes to the underlying property (such as remodeling), and equity can become difficult to achieve and retain. As an example, Table 1 shows horizontal (measured typically with the COD) and vertical (measured typically with the PRD) equity statistics from the 2006 ratio studies conducted by the Idaho State Tax Commission on unimproved rural residential subdivision land in two medium sized Idaho counties with active markets[9]. Both counties are subject to state

[8] Ibid. page 51.
[9] the complete 2006 Idaho Ratio Study can be found at www.tax.idaho.gov

laws that require reappraisal every five years with annual interim updates using statistical techniques (generally index factors applied as multipliers).

Table 1 Comparison of horizontal and vertical equity statistics in two Idaho counties

County	Number of Sales in 2006 Ratio Study – unimproved rural residential subdivision land	Coefficient of Dispersion (COD)	Price Related Differential (PRD)
Blaine	212	28.4%	1.13
Jefferson	128	8.9%	1.02

The statistical measures shown in Table 1 do not provide any indication of why the underlying equity differences exist. However, Blaine County is the assessment jurisdiction for one of the nation's premier winter recreation areas – Sun Valley, Idaho. Accordingly, property in Blaine County has been in high and irregular demand with great heterogeneity in both property types and locational influences on market value. Jefferson County is more suburban and is considerably more homogenous in both property types and market demand. It is unlikely, given the underlying equity and market issues that similar expenditures would produce similar equity results in both areas. Regardless of the degree of equity achieved, it is doubtful that it could be sustained as well in Blaine County because of the factors already discussed.

Benefits of Reappraisal

Without regard to the many different forms of reappraisal, the fundamental principle remains providing some assurance that the tax base reflects the ever changing dynamics of market value. To understand the importance of this precept it is necessary to view the

benefits of reappraisal from an equity standpoint and to try to clarify and quantify the equity effects. Although frequent reappraisal will provide vertical (defined here in terms of equitable distribution of property taxes per dollar of value regardless of whether higher and lower value properties are considered), as well as horizontal equity improvement, it is more straightforward to demonstrate equity effects from the perspective of horizontal equity. In other words, are similarly situated properties, such as the homes in one town or neighborhood assessed at approximately the same relationship to or percentage of market value? Although the examples that follow are based on a set of properties with dissimilar sale prices, and therefore have vertical equity issues, the goal is to view the coefficients of dispersion (CODs) and thereby observe the underlying horizontal equity in the two property sets. Aside from merely describing the COD and its observable measurement of relative equity in the two data sets (tables 2 and 3), I have added a tax dimension. After all, the benefit of reappraisal is not really in merely obtaining more uniform underlying values, but should be understood from the perspective of the ensuing redistribution of the property tax revenue to be raised. The examples assume the following:

- sale prices are reasonable indicators of market value;
- all necessary adjustments have been made to ensure that the sale prices reflect market value as of the appraisal date;
- the underlying tax system is budget (levy or revenue) driven and not based on fixed rates of taxation.

Table 2 (example 1) exemplifies good horizontal equity, with a COD of 11.5%. This is achievable, but difficult in many markets, given heterogeneity of property types and underlying market or neighborhood influences. The tax differential can be best observed by the column which shows tax dollars per $1,000 in underlying market value (as evidenced by sale price).

Table 2 Tax differential between properties given good horizontal equity

Example 1: Taxes paid given good equity (COD = 11.5%)

Parcel	Appraised Value ($)	Sale Price ($)	Ratio (A/V)	Avg. Abs. Diff. from Median	Taxes to be paid ($)	Taxes per $1,000 sale price
1	100,000	130,000	0.769	0.229	$1,000	$7.69
2	110,000	135,000	0.815	0.184	$1,100	$8.15
3	125,000	145,000	0.862	0.136	$1,250	$8.62
4	145,000	155,000	0.935	0.063	$1,450	$9.35
5	170,000	175,000	0.971	0.027	$1,700	$9.71
6	200,000	195,000	1.026	0.027	$2,000	$10.26
7	235,000	215,000	1.093	0.094	$2,350	$10.93
8	275,000	250,000	1.100	0.101	$2,750	$11.00
9	320,000	285,000	1.123	0.124	$3,200	$11.23
10	370,000	320,000	1.156	0.158	$3,700	$11.56
Total	2,050,000	2,005,000	9.851	1.145		
Median			0.999			
Average difference				0.114		
COD				11.5%		
Tax rate			0.01			

Note: Taxes based on budget of $20,500

Table 3 (example 2) exemplifies poor or marginal horizontal equity, with a COD of 22.0%. This may be a result of slippage from the last reappraisal, rapidly changing local markets, or failure of reappraisal to effectively model market influences. Often a combination of these factors is implied. A much larger difference in the amount of taxes per $1,000 of market value can be noted.

Table 3 Tax differential between properties given poor horizontal equity

Example 2: Taxes paid given poor equity (COD = 22.0%)						
Parcel	**Appraised Value ($)**	**Sale Price ($)**	**Ratio (A/V)**	**Avg. Abs. Diff. from Median**	**Taxes to be paid ($)**	**Taxes per $1,000 sale price**
1	45,249	130,000	0.348	0.652	$477	$3.67
2	72,398	135,000	0.536	0.464	$763	$5.65
3	101,810	145,000	0.702	0.298	$1,073	$7.40
4	133,484	155,000	0.861	0.139	$1,406	$9.07
5	167,421	175,000	0.957	0.044	$1,764	$10.08
6	203,620	195,000	1.044	0.044	$2,145	$11.00
7	242,081	215,000	1.126	0.126	$2,551	$11.86
8	282,805	250,000	1.131	0.131	$2,980	$11.92
9	325,792	285,000	1.143	0.143	$3,433	$12.04
10	371,041	320,000	1.160	0.159	$3,909	$12.22
Total	1,945,701	2,005,000	9.008	2.200		
Median			1.000			
Average difference				0.220		
COD				22.0%		
Tax rate			0.010536			

Note: Taxes based on budget of $20,500

Table 4 compares examples 1 and 2 on the basis of taxes per $1,000 of sale price and on an overall tax basis. Many of the differences in total taxes to be paid are strikingly large, either in dollars or as a percent of total taxes, given the example with better uniformity.

Without even addressing the vertical equity problem, these examples demonstrate a key benefit to frequent high quality reappraisal. With a COD of 11.5%, example 1 comes the closest to a property tax based on market value as the tax base and has the greatest equity. Given that CODs of 22% are not uncommon, even given annually updated assessment systems[10], infrequent reappraisal runs a risk of much greater "sticker shock" and

[10] See for example the 2006 Idaho Ratio Study, found at www.tax.idaho.gov

objection from taxpayers who have been paying less than an equitable share, but suddenly catch up.

Table 4 Summary comparison of tax differentials given good or poor horizontal equity

Examples 1 and 2 compared				**Comparison of overall tax equity**			
	Example 1	**Example 2**		**Example 1**	**Example 2**		
Parcel	**Taxes per $1,000 sale price**	**Taxes per $1,000 sale price**	**Difference ($ per $1,000 SP)**	**Total Tax ($)**	**Total Tax ($)**	**Difference ($)**	**Percent (%)**
1	$7.69	$3.67	-$4.03	$1,000	$477	-$523.26	-52.3%
2	$8.15	$5.65	-$2.50	$1,100	$763	-$337.21	-30.7%
3	$8.62	$7.40	-$1.22	$1,250	$1,073	-$177.33	-14.2%
4	$9.35	$9.07	-$0.28	$1,450	$1,406	-$43.60	-3.0%
5	$9.71	$10.08	$0.37	$1,700	$1,764	$63.95	3.8%
6	$10.26	$11.00	$0.75	$2,000	$2,145	$145.35	7.3%
7	$10.93	$11.86	$0.93	$2,350	$2,551	$200.58	8.5%
8	$11.00	$11.92	$0.92	$2,750	$2,980	$229.65	8.4%
9	$11.23	$12.04	$0.82	$3,200	$3,433	$232.56	7.3%
10	$11.56	$12.22	$0.65	$3,700	$3,909	$209.30	5.7%
COD	**11.5%**	**22.0%**		**11.5%**	**22.0%**		

Level v. Uniformity (horizontal equity)

The preceding examples were designed to look only at horizontal equity, so a median close to 100% of market value was chosen for both. Often, however, as uniformity (horizontal equity) slips over time, level of appraisal (eg: the median ratio) also falls. When this is the case, the overall taxable value underlying the property tax is likely to increase following reappraisal. For instance, if the sale prices doubled, while the appraised values were the same as those indicated in example 2, the COD would remain the same, but the median would drop to about 50%. Example 3 in Table 5 demonstrates this principle.

Table 5 The effect of level of assessment on tax differentials given a particular degree of horizontal equity

Example 3: Taxes paid given poor equity (COD = 22.0%) with low level of appraisal

Parcel	**Appraised Value ($)**	**Sale Price ($)**	**Ratio (A/V)**	**Avg. Abs. Diff. from Median**	**Taxes to be paid ($)**	**Taxes per $1,000 sale price**
1	45,249	260,000	0.174	0.326	$477	$1.83
2	72,398	270,000	0.268	0.232	$763	$2.83
3	101,810	290,000	0.351	0.149	$1,073	$3.70
4	133,484	310,000	0.431	0.070	$1,406	$4.54
5	167,421	350,000	0.478	0.022	$1,764	$5.04
6	203,620	390,000	0.522	0.022	$2,145	$5.50
7	242,081	430,000	0.563	0.063	$2,551	$5.93
8	282,805	500,000	0.566	0.065	$2,980	$5.96
9	325,792	570,000	0.572	0.071	$3,433	$6.02
10	371,041	640,000	0.580	0.080	$3,909	$6.11
Total	1,945,701	4,010,000	4.504	1.100		
Median			0.500			
Average difference				0.110		
COD				22.0%		
Tax rate			0.010536			

Note: Taxes based on budget of $20,500

Given the situation demonstrated in Table 5, reappraisal can have two likely outcomes:

1. In a rate driven tax system, the total taxes to be levied will increase from $20,500 to $40,100;
2. In a budget (levy) based tax system, with typical budget constraints, the taxes to be levied will be about $20,500, but the tax rate will fall to about half of the rate shown.

It is important to differentiate between the two underlying concepts of level and uniformity. Failure to recognize this difference may result in the conclusion that the reappraisal was designed to improve the level of appraisal, bringing the median ratio closer to 100%. Also, tax consequences resulting from improved equity due to reappraisal (example 1 v. example 2) may be viewed as resulting from increasing the underlying level from 50% to 100%. This confusion of issues must be avoided and explained to taxpayers to preclude the otherwise "obvious" assumption that every property was subject to an increase in appraised value (mostly true in example 3) and therefore, every property is now paying more tax as a result of reappraisal – not true, even in example 3, unless a rate driven system is in place as the underlying tax policy.

Tax Effects of Different Degrees of Horizontal Equity – New York State examples

The preceding tables 2 – 5 provide the theoretical underpinning for the relationship between horizontal equity of assessments and the amount of tax inequity that results. The following Table 6 is taken from a study of such inequity in various counties in New York state[11].

The term "CAP," as used in Table 6 indicates that there is a coordinated assessment program in place. In such a program, there is one appointed assessor for two or more towns or cities within any county in New York.[12]

[11] Hevesi, Alan G. *The Effectiveness of Coordinated Assessment Programs.* Office of the New York State Comptroller. 2004. MS-2. Abstracted from Table 3 in the referenced report.
[12] Ibid. (Executive Summary)

Table 6 Tax effects of high CODs in selected New York counties in 2002

2002 Cost of Assessment Inequity (+ or -)					
County	**2002 Median Sale Price of Home in County**	**Weighted Average Overlapping Tax Rate Per Thousand**	**Assessing Unit**	**2002 COD**	**Cost of Assessment Inequity in Taxes**
Broome	$69,000	$21.98	Broome County CAP #1	41.92%	± $636
			Town of Colesville	53.18%	± $807
Chautauqua	$59,000	$28.80	Chautauqua County CAP #3	18.84%	± $320
			Town of Arkwright	25.20%	± $428
Cortland	$68,000	$31.51	Cortland County CAP #2	6.66%	± $143
			Town of Truxton	15.73%	± $337
Schoharie	$77,000	$28.21	Schoharie County CAP #1	13.60%	± $295
			Town of Jefferson	19.04%	± $414
Tioga	$73,000	$28.36	Tioga County CAP #1	16.02%	± $332
			Town of Spencer	31.75%	± $657
Warren	$116,000	$19.70	Warren County CAP #2	10.60%	± $242
Fulton	$58,500	$33.80	City of Gloversville	21.44%	± $424

The information contained in Table 6 is on a per parcel basis and serves to corroborate the theoretical information presented earlier. The magnitude of costs of assessment inequity, in terms of higher or lower taxes paid by individuals with properties with similar underlying market values, is similar to the predicted amounts. Note, for example the range of costs shown in Table 4. It is interesting to note that annual assessment costs in the indicated counties range between $3 and $18 per parcel – far less than the cost of the inequity shown.

Costs

Costs of reappraisal are much more difficult to ascertain and understand than equity benefits. Costs are highly dependent on numerous factors, including:

- Quality and age of existing inventory of property information;
- Availability of computer software and support;

- Training and availability of in house staff;
- Training and availability of local contract appraisers;
- Types of property being reappraised.

In addition, the extent or completeness of reappraisal activity will directly impact costs. Generally, systems involving some element of statistical updating in years between reappraisals will be less costly. Reappraisals that include mapping programs typically cost more.

The International Association of Assessing Officers (IAAO) conducted surveys of assessment budgets and expenditures in 1974 and 1986 and found median per parcel expenditures of $8.60 in 1986[13]. Even ignoring the age of this data, this can not be assumed to isolate reappraisal costs, however, since assessment offices provide various services and conduct varying reappraisal and reassessment programs, and it is not known whether the respondents were performing cyclic, irregular, or annual reappraisals, or merely maintenance. It is also not clear whether in-house staff or contract appraisers were used by the survey participants.

A 1978 reference manual published by IAAO tackled some of these issues, differentiating between ongoing assessment costs and those specifically associated with a complete reappraisal and suggesting:

[13] Eckert, Joseph, PhD. Property Appraisal and Assessment Administration. IAAO. 1990. p 420.

> *"…costs per parcel for an ongoing operation should generally range between $6 and $12 per parcel…. A reappraisal, starting anew and including data collection…should generally range between $18 and $24[14]."*

A 1983 survey conducted by IAAO looked at court ordered reappraisals in Mississippi and Alabama. Costs in Mississippi averaged $20 per parcel, peaking at $55 per parcel when experts had to be hired to appraise special properties such as ship yards and paper plants. Costs in Alabama averaged $35 per parcel, with all but one county contracting for appraisal services[15]. This survey also found that local government reappraisal costs may be mitigated by state aid. In Missouri, for example, there were findings that up to 75% of reappraisal costs could be reimbursed by the state. In addition, this survey noted that a "*…complete mapping program will add another $20 or so[16]*."

More recently, in 1999, the IAAO Metropolitan Jurisdiction Council (MJC) conducted a survey of 33 large jurisdictions around the United States, which had a median annual expenditure for assessment operations of about $19 per parcel. These jurisdictions relied mostly on in-house staff and some were not on annual assessment cycles. Of the eight that assessed annually, the median per parcel cost was $24.[17]

Another study expanded the 1999 MJC survey to include 40 major metropolitan assessment jurisdictions in 23 states in the U.S. This expansion also included cost data

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[14] Almy, Richard R., Robert J. Gloudemans, Robert C. Denne, and Stuart W. Miller. Improving Real Property Assessment. IAAO. 1978. p. 5.
[15] Clatanoff, Robert M. *Research Review: A preliminary report on IAAO's Survey of Reassessment Costs.* Assessment Digest. March/April 1983. pp. 30-31.
[16] Ibid. p. 31.
[17] Almy, Richard. *Comparision of Costs of Reappraisals to Annual Costs of Assessment Administration: Moving from Infrequent Reappraisal Projects to an Annual Appraisal Program.* December 14, 2006 (unpublished manuscript provided by author).

from 2003 - 2008 from several of the jurisdictions included. The expanded study showed an annual per parcel assessment cost range from $39.51 to $8.84, with a median of $20.98 for these areas. Of the nine jurisdictions in this group that were annually reassessing, the per parcel costs ranged from $31.28 to $8.84, with a median of $22.11.[18]

Recent trends in state assessment assistance

The involvement of state oversight agencies varies considerably and can influence costs significantly. State assistance with locally conducted assessment programs can take many forms. Most states provide guidelines, manuals, and administrative rules which assist assessors. A 1999 survey of state level assessment or assessment supervision agencies found that 30 states provided legal advice, 45 provided technical advice, and 23 provided direct, on-site valuation and appraisal services[19]. Idaho has a long standing program under which the state provides free assessment software and software support to most county assessors. Many states completely absorb responsibility for appraising selected property classes, such as public utilities, railroads, industrial property, or timber land. New York State established a $10 per parcel reassessment reimbursement program in 1994. The maximum reimbursement amount was lowered to $7 per parcel in 1997, but assistance of this type is important and can significantly reduce costs that otherwise would be borne by local assessing entities, thereby making reassessment more palatable[20].

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[18] Houlihan, James M. *Summary of the 1999 Major Assessment Jurisdiction Survey.* Chicago: Cook County Assessor's Office; conducted for the Metropolitan Jurisdiction Council; updates provided by Richard Almy; unpublished spreadsheet; 2008.

[19] IAAO. Property Tax Policies and Administrative Practices in Canada and the United States. Excerpt from Exhibit 4-4, p. 12. 1999.

[20] Hevesi, Alan G. *The Effectiveness of Coordinated Assessment Programs.* Office of the New York State Comptroller. 2004. MS-2.

Cost / Benefit Case Studies – general comments

Several statewide or specific jurisdiction case studies have been researched and provided to establish a cost / benefit framework anchored with actual data. It is important to recognize that jurisdictions differ in many ways that affect both reappraisal costs and benefits. While it may be tempting to compare costs and benefits among the jurisdictions shown, these differences tend to preclude meaningful comparisons.

Before reviewing specific case studies, it is important to reflect on some of the limitations in the studies. The two most significant limitations are:

1. inconsistencies and unknowns with respect to reporting of associated costs, such as embedded software and personnel costs that may be borne by parts of a governmental operation not directly ascribed to reappraisal; and,
2. incomparability of costs from place to place due to unknown variations in complexity of property types subject to reappraisal.

Both governmental officials and private vendors interviewed in the course of this analysis indicated that costs are higher when reappraisal functions rely more on out-sourcing than on in-house staff. However, it is not clear how much of this relates to difficulties in finding and assigning in-house costs (limitation 1 above). In addition, the mix of residential / commercial / industrial and other properties for which the local jurisdiction is directly responsible is critical in determining overall reappraisal costs and this mix will differ from jurisdiction to jurisdiction. This report stops short of quantifying these differences, focusing instead on exploring the range of costs as reported in the case

studies. Because of all of these issues it may be more beneficial to review the cost ranges in the case studies involving multiple jurisdictions than to focus too closely on the per parcel costs in the individual jurisdiction case studies.

One recent study did attempt to quantify additional costs related to reappraisal and separate these costs from ongoing costs of general assessment operations. In this study, conducted in 2000, reappraisal tended to cost an additional $40 - $45 per parcel in the jurisdictions reviewed. This can be compared to ongoing operational costs which tended to be about $15 per parcel.[21] These reappraisal costs were based on contract appraisers, rather than in-house staffing.

Specific Cost / Benefit Case Studies –New Hampshire municipalities, Idaho counties, and the Williamson Central Appraisal District in Texas

Aside from the limitations discussed in the preceding section, one of the major factors in analyzing cost is the extent of the "reappraisal" that is needed to achieve the desired equity outcome. The following table illustrates this issue and provides cost information derived from 39 out of 235 municipalities in New Hampshire. These municipalities participated in one of three types of "reappraisal" programs: complete reappraisal, partial reappraisal (included under reappraisal in Table 7), or statistical update. The remaining municipalities did not reappraise or did not provide reappraisal and cost information to the New Hampshire Department of Revenue Administration during the period shown in the table. Since 2001, New Hampshire state law has required regular cycles, with value

[21] Ibid.

adjustments considered at least once in each five year period. The present state compliance testing program began in 2003.

Table 7 Costs and changes in CODs given reappraisal or statistical update in New Hampshire municipalities

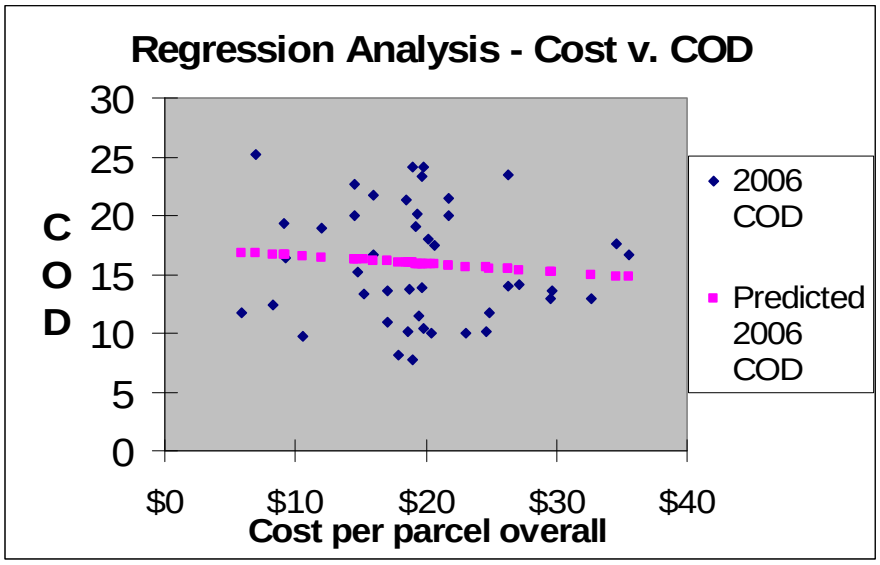
	2005 COD %	2006 COD %		Percent reduction
Overall			Per Parcel cost	in COD
maximum	34.9	12.1	$80.36	92.1%
minimum	8.7	2.5	$4.14	2.1%
median	19.0	7.0	$23.42	63.7%
Reappraisal				
maximum	34.9	12.1	$80.36	82.4%
minimum	10.5	3.6	$28.09	53.1%
median	20.7	5.7	$60.75	67.2%
Statistical update				
maximum	34.2	11.6	$42.47	92.1%
minimum	8.7	2.5	$4.14	2.1%
median	16.2	7.3	$11.21	58.5%

Note: Results shown for 2005 - 2006

Within both the reappraisal and the statistical update categories, costs in New Hampshire varied significantly. However, as is typical, statistical updating of values is far less labor intensive than reappraisal and can produce comparable equity results provided that the underlying property data and inventory is up to date and accurate and provided that adequate sales data can be obtained. The variation in costs between municipalities is notable and is partly explained by the various types of contractors to which the reappraisal and update functions typically are out-sourced in New Hampshire. For example, some of these contractors are local, with longstanding local appraisal related activities, while others may be new to a municipality, in which case costs may be higher.

Similar lack of significant direct correlation between reappraisal related costs and resultant equity, as measured by the COD, was found in Idaho. This state has 44 counties, each of which has assessment responsibility for about 96% of the taxable property in the state. The remaining 4% is public utilities and railroads, for which assessment responsibility is retained by the state, rather than the counties. All locally assessed property must be at market value annually and must be reappraised at least once each five years. Statistical updates are required for property not actually reappraised in a given year. This system has been in place since the early 1980s, so ongoing updated reappraisals are the norm.

Appraisal operations vary, with many of the counties relying mostly on in-house staff rather than independent contractors. The following graph compares annual reappraisal costs for all parcels (including both parcels subject to reappraisal and those subject to statistical update during the year) in each county to horizontal equity as measured by the COD for improved residential property.



Each individual point in the above chart represents results for one county in Idaho. While the chart does appear to demonstrate some correlation between higher expenditures and better equity (lower CODs), the relationship is weak statistically and shows considerable variation. The coefficient of determination (r^2) is 0.01 for the regression line in the above graph. Hence, the regression line does not explain the variation. The *t* statistic measuring the significance of cost as a predictor of the COD was -0.64, a weakly significant indicator of some correlation. It is likely that there is some relationship between higher cost and lower CODs. The predictive weakness probably is due to the various factors discussed throughout this paper, including heterogeneity of underlying property types and markets, in house staff costs v. out-sourcing costs, and embedded overhead costs that are difficult to discern in the reappraisal costs reported by the counties.

Table 8 provides summary reappraisal costs and COD results for residential property in Idaho counties collectively.

Table 8 Idaho counties reappraisal cost and residential uniformity summary

Statistic	**Cost per Parcel**	**Improved Residential COD (%)**
mean	$19.42	15.9
median	$19.28	14.7
standard deviation	$6.89	4.9
maximum	$35.50	25.2
minimum	$5.92	7.7

Although costs shown include more than just residential parcels, this type of property predominates by parcel count. COD statistics for non-residential parcels generally show worse equity within these other property types.

The Williamson Central Appraisal District in Texas has had an ongoing reappraisal and statistical updating system in place for many years. With a county seat of Georgetown, a city of 42,467 based on 2006 U.S. Census Bureau population estimates, the Williamson Central Appraisal District is responsible for assessments of about 200,000 total parcels of taxable property in a county with a July 1, 2007 estimated population of 373,363. The assessor (aka appraiser) conducts a field review (similar to a reappraisal) on each property every six years, but annually updates values using statistical techniques so that all properties have "appraisals" that annually reflect current market value. Texas state law imposes caps on assessed value increases, but the initial values determined by the assessor are designed to reflect full market value. The cost of both the updates and whatever appraisal and reappraisal must be done annually is about $21 per parcel[22] or about $4.2 million annually overall. These costs include overhead such as the annualized costs associated with the building that houses the appraisal offices. Prior to beginning appraisal and statistical update work in a typical year, CODs tend to be around 12%; following the annual updating, CODs tend to be around 5% - 6%. Numbers of appeals tend to approximate 10% of all parcels on a regular basis.

Comment on Costs

The question of how much cost is excessive is difficult to answer. The property tax has the advantage of being our most transparent tax. To the extent that good quality, up to date reappraisals and property information contribute to transparency and good administration of the tax, the quality of this underlying data can be seen as supporting the entire system. Hence, to some extent appraised values are the underpinnings of a $336

[22] Based on discussions with Bill Carroll, the chief appraiser for the District.

billion state and local revenue source (fiscal year 2005) in the United States. Using the New Hampshire data, total annual reappraisal (including statistical update) costs provided to me were $2.5 million to support a tax that raised $2.6 billion in fiscal year 2005. That places the reappraisal costs at about 0.1% of the collections (ignoring other property tax administration costs[23]). This understates actual costs, since many municipalities in New Hampshire did not actively reappraise (or did not report costs) during the study year yet, undoubtedly, still incurred some assessment costs. However, it underscores the fact that, in many cases, complete reappraisal annually is not necessary. This in turn effectively reduces costs when viewed on a long term basis.

For comparison, in the Williamson Central Appraisal District in Texas, with a long history of consistent, in-house staffing for reappraisal and statistical updates, annual assessment costs are about 0.6% of the total property tax revenue of all units of government within the District. In Idaho, with a mixture of in-house staff appraisers and contract appraisers, reported annual reappraisal costs equal about 1.4% of total property tax revenue. It is not know how many of the New Hampshire assessment jurisdictions used in-house staff v. contract appraisers.

[23] often presumed to be 2% - 5% of revenues in the U.S. See, for example, IAAO Course 402, Property Tax Policy, Student Reference Manual, Module 6

The 1999 - 2008 survey of 40 major metropolitan assessment jurisdictions cited earlier indicated a median assessment program cost equal to 0.90% of property taxes, with a range from 0.16% to 2.89%[24].

Need for and frequency of reappraisal

As has been implied throughout this paper, there is no one answer to the question of when a reappraisal should be done. However, aside from state laws mandating cycles or constraining reappraisal activities, certain fundamentals can help answer this question. Throughout the IAAO literature, one finds the recommendation that "*…properties be physically reviewed and revalued at least every six years.*[25]" This is further defined as including "*…partial remeasurement of the two most complex sides of improvements and a walk around the improvement to identify additions and deletions or independent review of the current measurements with specific requirements by an outside auditing firm or oversight agency.*[26]" Acknowledging recent advances in digital imaging technology, the IAAO standards allow for technological alternatives to such periodic on-site inspections.[27]

The IAAO literature[28] summarizes the steps in a revaluation (used here as a synonym for reappraisal), which include the following:

[24] Houlihan, James M. *Summary of the 1999 Major Assessment Jurisdiction Survey.* Chicago: Cook County Assessor's Office; conducted for the Metropolitan Jurisdiction Council; updates provided by Richard Almy; unpublished spreadsheet; 2008.
[25] Gloudemans, Robert J. Mass Appraisal of Real Property. Chapter 2, page 27. IAAO 1999.
[26] IAAO. *Standard on Mass Appraisal of Real Property.* Section 3.3.4. 2006.
[27] Ibid, section 3.3.5.
[28] Gloudemans, Robert J. Mass Appraisal of Real Property. Chapter 2, page 28. IAAO 1999.

1. performance analysis – ratio study
2. revaluation decision
3. analysis of available resources
4. planning and organization
5. system acquisition or development
6. pilot study
7. data collection
8. valuation
9. value defense
10. final ratio study

The first step, performance analysis, is crucial in determining the equity considerations that often dictate the need for revaluation and the extent of revaluation that may be needed (from complete reappraisal to statistical update). This goes hand in hand with the principle of annual assessment described in the IAAO *Standard on Property Tax Policy*,[29] which states:

> "*Current market value implies annual assessment of all property. This does not necessarily mean that every property must be reappraised each year. In annual assessment, the assessing officer should consciously reevaluate the factors that affect value, express the interactions of those factors mathematically, and use mass appraisal techniques to estimate property value."*

This section of the standard goes on to state:

> *"It is recommended that assessing officers consider establishing regular reappraisal cycles or at least appraisal level and uniformity (vertical and horizontal equity) thresholds that trigger reappraisal.*"

[29] IAAO. *Standard on Property Tax Policy.* Section 4.2.2. 2004

A 1999 survey of U.S. state and Canadian provincial assessment practices found the following patterns, as shown in Table 9:

Table 9 Legally required and commonly practiced reappraisal cycles[30]

	Provinces	**Provinces**	**States**	**States**
Reappraisal	Legal Requirement	Common Practice	Legal Requirement	Common Practice
No specified cycle	2	unknown	7	Unknown
Annual	3	1	17	8
Two – Four years	5	5	23	16
Five – Six years	1	0	10	10
> Six years	2	3	3	4

The same survey found equally disparate value update practices, as shown in Table 10:

Table 10 Value update practices in U.S. states and Canadian provinces[31]

Practice	**Provinces**	**States**
Update between reappraisals	4	30
Equalize to base year	1	7
Apply general percentage factor (multiplier) to all property classes	0	7
Apply separate factors to each property class	2	17
Update value for each property using updated computer model	1	18

The various valuation update methods are not mutually exclusive, so states may employ more than one.

Percentage factors generally are the least costly, but only restore equity provided that multiple factors are developed by class or substrata (ie: neighborhood or geoeconomic

[30] IAAO. Property Tax Policies and Administrative Practices in Canada and the United States. Excerpt from Exhibit 5-7, p. 15. 1999.
[31] Ibid. Excerpt from Exhibit 5-8, p. 15.

area) within class of property. Single factor approaches may restore compliance with level of assessment standards, but do not correct horizontal or vertical equity problems and the literature warns against even short term use when CODs are high or there are other indicators of uniformity problems. In commenting on use of factor type revaluation approaches, the most recent IAAO literature[32] comments as follows:

> *Direct equalization involves use of adjustment factors, which produce effects mathematically identical to those derived through the application of "trending" or "index" factors, which are commonly used for value updating by local assessing jurisdictions. The most significant differences typically are the level of the jurisdiction originating the adjustments and the stratification of property to which the factors are applied. Local jurisdictions with primary assessment responsibility can develop value adjustment factors as an interim step between complete reappraisals. Such factors commonly are applied to properties by property type, location, size, age and other characteristics….*

This section of the Standard continues by stating that such factors:

> "*…cannot improve uniformity between properties within a given stratum."*

Finally, this section adds:

> "*…reappraisal orders should be considered as the primary corrective tool for uniformity problems.*"

Frequency of reappraisal v. horizontal equity

Although it may seem obvious that frequent reappraisal should lead to improved horizontal equity, it is difficult to measure the effect, mostly because reappraisal frequency patterns in many jurisdictions are longstanding. Additionally, annual statistical updates can improve horizontal equity provided that neighborhoods are well defined and adjustments are developed and applied based on sound methodological principles.

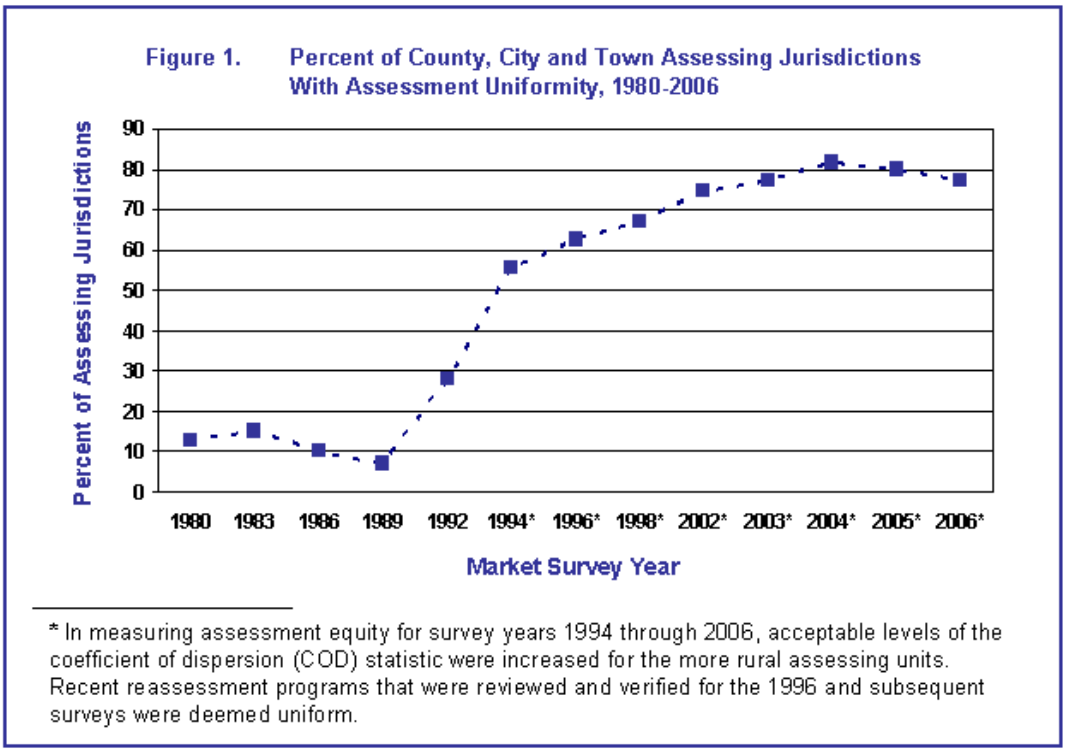
[32] IAAO. *Standard on Ratio Studies.* Section 2.2.1 (Part 2). 2007.

A review of changing assessment practices in New York state provides quantifiable data regarding the relationship between these practices and assessment equity. Although there is a mixture of reappraisals and statistically updated reassessments, there is a documented pattern shift over time. Prior to 1975, few assessment jurisdictions in New York State conducted annual reappraisals or reassessments. As of 2005, 40% of New York assessment jurisdictions did so. The following figure, found on the website of the New York Office of Real Property Services (ORPS), shows the percent of assessing jurisdictions meeting horizontal equity standards based on the COD and based largely on IAAO standards[33]. The proportion of jurisdictions with good horizontal equity increased dramatically as more jurisdictions implemented more frequent reappraisal or reassessment programs.

Many studies have found that, without frequent reappraisal or some sort of market driven statistical updating of assessments, the achievement of satisfactory horizontal equity is doubtful. A recent court case in Allegheny County, Pennsylvania, for example, included findings based on a comparison of CODs and lengthy periods without "comprehensive reassessment" activity. According to the findings stated in this case, in 2005, 18 of Pennsylvania's 67 counties had CODs of 40% or higher. The common thread was that none of these counties had conducted comprehensive reassessments for at least the past 20 years.[34]

[33] Office of Real Property Services. *Assessment Equity in New York. Results from the 2006 Market Value Survey.* Found at www.orps.state.ny.us Last updated June, 2007.
[34] Clifton, James C. et al v. Allegheny County. Case Nos. GD05-028638 and GD05-028355. Civil Division. Court of Common Pleas of Allegheny County, PA. June, 2007.

Figure 1 Proportion of New York assessing jurisdictions meeting assessment uniformity standards over time



Consequences of Reappraisal – Nassau County, New York

Assuming that the underlying property tax system is budget (ie: levy), rather than rate, driven, the major consequence of reappraisal is "sticker shock" which will depend largely on two factors: the rapidity and heterogeneity of market place dynamics and the length of time between reappraisals. The more disparate the changes in market value between neighborhoods within the same taxing jurisdictions, the greater the underlying inequity resulting from infrequent revaluation. Additionally, when markets change rapidly, the likelihood of successful restoration of equitable treatment from statistical update or other means, short of reappraisal, is less. All of this argues for the importance of frequent reappraisals to contend with the extreme market changes. Statistical updates may be used

as a stopgap between reappraisals, but are not effective in restoring equity in rapidly changing markets.

One of the most extreme reappraisal situations in recent U.S. history occurred in Nassau County, New York In this suburban county near New York City, with a population of 1.3 million, residential property values had been based on 1938 construction costs less depreciation plus 1964 land values. Commercial and industrial properties and apartments previously had been reappraised to reflect 1986 values. Appeals based on claimed inequities were costing the county $100 million to $150 million in tax refunds annually and contributing to total judgments of over $1.6 billion and representing over one-third of total county debt.[35,36] As of 2003, Nassau County had the highest per capita debt of any county in New York. Interestingly, the County has been required to reimburse successful appellants for all overpaid property taxes and interest, despite the fact that three-quarters of the taxes ultimately were paid to schools and other local units of government. Reappraisal was conducted with current values used for the 2003 assessment roll. The cost of reappraising 368,430 residential and 44,881 commercial parcels was about $35 million, or about $85 per parcel. Although such costs may appear high, it is useful to place them in the perspective of $3.7 billion in total property tax revenue ($2,761 per capita in Nassau County v. $1,402 per capita in New York State) within Nassau County in fiscal year 2002.[37] The reappraisal itself appears to have been comprehensive,

[35] Herszenhorn, David. *A Path to Fairer Property Taxes: Where Politicians Fear to Tread.* New York Times. October 9, 2000.
[36] Weitzman, Howard S. Comptroller. *Cole-Layer-Trumble Company: Countywide Reassessment Project.* Nassau County Office of the Comptroller Field Audit. FA03-03. May 13, 2003.
[37] Based on U.S. Census Bureau information found at www.census.gov

involving: *"…site visits, photographs, sketches, inspection of public records, collection of massive amounts of data for appraisal analysis, a comprehensive public information campaign that included a web site, informal in-person review-of-value procedures, and the creation and utilization of a new computer software-enabled property evaluation system."*[38]

Perhaps inevitably, given the length of time between reappraisals, the Nassau County reappraisal resulted in a large number of appeals and "sticker shock" to many property owners, despite various capping mechanisms that constrained residential taxable (assessed) value increases in aggregate, but not for individual properties. Applying assessed value increase caps in this way enabled the reappraisal to correct horizontal and vertical inequities that resulted from decades without reassessment, but nullified what many taxpayers thought existed to prevent large annual *individual* increases. To accomplish the goal of improved equity and give some meaning to assessed value increase caps, residential property fractional assessment ratios were decreased from 2.38% in 2001 to 0.25% in 2006[39]. Although challenged, this process was found valid by the courts. Given the convoluted operation of this system, it is doubtful that increased transparency resulted. Horizontal and vertical equity clearly improved. A ratio study[40] conducted subsequent to the major reappraisal and following annual value updates through 2005, indicated the following results based on sales ("Number" column of table 11) occurring during the last half of 2005:

[38] Coleman v. County of Nassau, supra, slip op [March 8, 2003] at 4.
[39] Tyler Technologies, Inc. CLT Division. *Mass Appraisal Report*. Nassau County. Dec. 9, 2005. p. 2.
[40] Ibid. pp. 40-41.

Table 11 Post reappraisal 2005 ratio study results for Nassau County

Ratio Report						
Class	Number	Median	Mean	Wgt. Mean	COD	PRD
I	6360	104.84	105.82	105.17	7.23	1.01
II & IV	265	95.25	96.94	94.43	12.13	1.03

Class I property, as shown in the Table 11, consists of residential property, including two and three family homes, low rise condominiums, and vacant residential land. Class II property consists of apartments and high rise condominiums with at least four floors. Class IV property consists of commercial and industrial improvements as well as vacant commercial land.

Prior to the major reappraisal, a ratio study reported by the Office of Real Property Services of New York State[41] showed the following results:

Table 12 Pre-reappraisal 1997 ratio study results for Nassau County

Property Class	**Number of Sales**	**COD**	**PRD**
Class I	11,021	18.19	1.04
Class II	543	25.35	1.09
Class IV	1,658	56.92	0.75

A comparison of tables 11 and 12 shows significant improvement in both horizontal and vertical equity following the major 2003 reappraisal and subsequent valuation adjustments. Furthermore, CODs were computed for Class I (residential property) in 69 school districts throughout Nassau County using sales from July, 2003 through August,

[41] www.orps.state.ny.us/ref/pubs/cod/appendixc/28.htm (last accessed January 12, 2008).

2005. The highest COD in any of these analyses was 10.2%, indicating good to excellent horizontal equity throughout the county. Level of assessment is not reported in Table 12 because only level following application of fractional assessment ratios was indicated in the 1997 reference report and subsequent reductions in fractional ratios to comply with assessment caps make such longitudinal assessment level comparison less than meaningful.

Once a major hurdle of reappraisal following many years of inactivity is overcome, updating values in subsequent years is far less expensive. Again, it is difficult to isolate costs related to reappraisal alone. For example, in Nassau County, subsequent related costs have included those for implementation of new GIS software and website development. In addition, certain costs associated with in-house staff may be embedded in budgets not as easily identified as "reappraisal" as in out-sourced contracts. However, in general, costs tend to be less when most appraisal functions are done in-house. While the original reappraisal relied on contractors rather than in-house staff, the county has been transitioning to increasing in-house staff reappraisal responsibilities. The county is now on a six year reappraisal cycle with annual statistical updates for all property.

Predictably, after such a long time without active reappraisal, administrative appeals of residential property values peaked following the reappraisal, with nearly 40% of all such parcels filing appeals in 2004 – 2005. While this number has remained high, in tax year 2007 – 2008 it declined to about 1/3 of all residential parcels. The county has undertaken efforts to provide more information using its website, which helps to publicize the improvements in assessment administration and this may be helping to reduce appeals.

Unfortunately, there is no evidence that the overall tax dollars refunded has diminished since the completion of the reappraisal. In fact, during the 1997 – 2006 period, the peak year for the dollar amount of refunds was 2005, with more than $250 million in total refunds, mostly in the commercial sector that year. It is particularly notable that the commercial property appeals peaked post reappraisal, given the remarkable improvement in horizontal equity (COD) for that class of property. For comparison, residential refunds varied between $10 million and $15 million from 1997 to 2002 and climbed to $31 million in 2004 before decreasing to $24 million in 2005. In what may be a sign that property tax appeals generated refunds are getting more under control, and in response to legislation that now prohibits the county from borrowing to pay tax refunds, the county comptroller reported in July of 2007 that the total outstanding property tax refund liability had been reduced to $137 million by the end of 2006[42].

Statistical measures of equity indicate that the Nassau County reappraisal was successful in reducing inequity both countywide and in local areas. The county has won awards for excellence from the IAAO.[43] However, given the continuing high number of appeals, the reappraisal does not appear to have quelled taxpayer concerns. This may be inevitable given significant movement away from the previous embedded system, no matter how demonstrably inequitable it was. Perhaps this should be considered a strong argument for frequent reappraisal which may pre-empt such an ongoing litigious environment. Would the present number of appeals be occurring had the county been more frequently

[42] Weitzman, Howard. Nassau County Comptroller. New release highlighting 2006 annual financial report. July 12, 2007. found at: http://www.nassaucountyny.gov/agencies/Comptroller/NewsRelease/2007/07-12-07.html (last accessed March 21, 2008).

[43] Based on author's discussion with Jeanette Duncan, AAS, Nassau County Deputy Assessor.

reappraising prior to 2003? Is the political and social fallout from an essentially frozen valuation system justification enough for rejecting such a system in the first place?

In search of a model reappraisal system

Given the diversity of underlying property tax systems in the United States and the needs and perceptions that lead to these variations, it is difficult to create a roadmap that would lead states toward a more idealized structure regarding reappraisal. Despite admonitions from economists and property tax professionals to rely on current market value to: "*…maximize fairness and understandability in a property tax system…,*"[44] the number of states imposing constraints on annual increases in assessed value has increased from 16 in 1999 to 20 in 2006.[45] While such constraints are intended to minimize tax changes and improve year to year predictability, they move the system away from current market value based equity and, invariably, weaken the case for reappraisal.

While this seeming flight from current market value is disconcerting and may have been inevitable, given the purported real estate "bubble" of recent years, perhaps these events can be viewed as a wake up call to re-examine the relationship between the valuation system and the property taxation system. Assessing officers are prone to seek to isolate valuation, as if it were an end in itself. This ignores the reality that the valuation process would not exist, but for the need to establish a base for property taxation. In Idaho, for example, many assessors have resisted legislative and public pressure to provide estimates of property taxes as part of the information contained on the annual assessment

[44] IAAO. *Standard on Property Tax Policy.* Section 4.2. 2004
[45] Dye, Richard and Daniel McMillen. *Surprise! An Unintended Consequence of Assessment Limitations.* Land Lines. Lincoln Institute of Land Policy. July, 2007.

notice. Although there are many difficulties in establishing accurate estimates in a timely fashion, lack of tax estimates leads taxpayers to conclude that assessors are being either deliberately evasive or tacitly are implying that any increase in assessed value will lead to a similar magnitude increase in tax. The reality is more complex, as Idaho has a budget (levy) driven system with strict budget increase constraints and assessors who oppose providing tax estimates often do so from the perspective of maintaining independence between the valuation and taxation sections of the system. The arguments rapidly become circular and serve to distance the taxpayers from the process. This in turn gives rise to more pressure to eliminate current market value assessment – the one part of the system that can be readily understood.

Table 13 presents elements that should be considered as crucial to valuation equity. The companion Table 14 that follows in the next section contains elements that should be considered crucial to taxation equity. These elements are derived from various sources.[46] Many of the elements in Table 13 rely on the underlying statutory assessment system, which typically provides the basis for the appraised values (ie: market value or some other basis), establishes the level of government responsible for reappraisal, and often provides for the periodicity of reappraisal programs. Several of the elements address the quality of any reappraisal program from the perspective of the importance of the quality of the underlying data that is captured and the importance of the performance analysis that must be done to prove the worth of the reappraisal in improving equity. Some of the elements shown address professionalism and outreach. While these may appear implicit,

[46] Principally: IAAO. Assessment Administration. Chapter 2. IAAO. 2003; and,
IAAO. *Standard on Property Tax Policy*. 2004

they are critical elements if public trust is to be maintained or established. While there are many examples on this latter point, assessment practices have not always embraced these precepts. For example, Massachusetts assessment practices were considered poor as recently as the mid-1970s, being ascribed by one author as "…*among the worst in the country in the equitable treatment of local taxpayers and in uniformity both within and between communities*[47]. At the time, for single family residential property in many communities, CODs were greater than 20% and few local jurisdictions met professionally accepted horizontal equity standards. By 1987, this picture had turned around with all local jurisdictions reporting CODs of 10% or less for this type of residential property following complete reappraisal costing local governments more than $100 million[48]. What worked in Massachusetts appears to have been a combination of separating the assessor from the revenue-raising process and refocusing assessors on training, certification, and professional appraisal practices. Partnering of state and local assessing officials no doubt contributed toward promoting this new environment and continues today in the form of state oversight and assistance. In addition, beginning in 1980, the IAAO published standards for CODs and other assessment equity indicators[49]. Although IAAO standards are considered voluntary guidelines, many states and local jurisdictions look to this organization's ratio study standards for guidance as they attempt to evaluate and improve their appraisal and assessment systems. The availability and wide scope of IAAO standards has provided a resource for assessors seeking up to date professional approaches to many appraisal and assessment issues. In Massachusetts, requirements for

[47] Collins, Edward J. Jr. *The Importance of Assessors in Municipal Finance: The Massachusetts Experience*. Assessment Digest. Volume 10, No. 1. January/February 1988. pp. 2-9.
[48] Ibid.
[49] IAAO. *Standard on Ratio Studies.* 2007 (most recent version).

both level of appraisal and uniformity (horizontal equity) closely mirror IAAO standards. Published guidelines for certification of assessed values indicate maximum allowable improved residential property CODs of 12%, with some other property types permitted to have CODs up to 20%[50].

Table 13 Elements that contribute to valuation equity

Element	Significance
Annual reassessment to current market value.	Enables the property tax to be based on values that reflect the current market place and whatever changes have occurred in the last year. Provides a tie to an annually recurring tax.
Periodic (frequent) reappraisals contingent on quality thresholds	While it is important to capture the effects of physical characteristic changes frequently, the necessary frequency will vary depending on local patterns of construction, movement, remodeling, and so forth. Quality thresholds are more efficient ways of determining the need to re-establish underlying physical characteristics of properties.
Primary assessment responsibilities operate at smallest practical level of government.	Creates a more open and transparent system, inviting public input and appropriate checks and balances.
Performance analysis / quality assurance, including ratio studies, procedure reviews, performance audits, data edits, and peer reviews.	Establishes quantifiable goals for reappraisal and provides objective and subjective means of testing outcome.
Commitment to professional staff and adequate ongoing training programs.	Establishes professional credentials for staff performing reappraisal, statistical, and related functions. Increases public assurance in quality of product.
High quality land records and accurate inventory of property. Up to date computer software and hardware.	Provides quality physical characteristic underpinnings for reappraisal or other assessment functions. Computer systems enhance ability to update values frequently.
Public relations, including open records and active communication utilizing web technology and more traditional forums.	Alleviates taxpayer concerns regarding reappraisal and related activities. May achieve "buy in."

Coupling reappraisal and taxation systems

In reaching out for an effective model for reappraisal systems, assessing officers and policy makers must not disregard the linkages between valuation and taxation, and the need for public education concerning both of these processes. The following table 14

[50] Massachusetts Department of Revenue. *Guidelines for Development of a Minimum Reassessment Program.* Bureau of Local Assessment. Division of Local Services. 2008. p. 5.

outlines elements that should be found in the taxation system to contribute to tax equity and to enable the reappraisal system to address value related equity issues.

Table 14 Elements that contribute to taxation equity

Element	Significance
Visibility and tie to taxing units of government	Changes in total taxes become a function of changing needs of governmental entities, rather than a function of reappraisal activity.
Budget (levy) driven systems rather than rate-driven systems.	Prevents windfalls resulting from reappraisal activity. Ties overall property taxes to governmental needs.
Truth in Taxation	By requiring clear notice to taxpayers, the effects of budget changes are made more visible and subject to taxpayer scrutiny. This also provides an opportunity for public involvement and separates overall tax increases from the reappraisal process.
Safety nets	Partial exemptions, up to date circuit breaker programs, and tax deferral systems incorporating adequate outreach programs can mitigate the tax shifting effects of reappraisal activity that results in larger changes for certain property types or neighborhoods.

Conclusions

As has been demonstrated throughout this paper, some relationship, however imprecise, does exist between revaluation costs and equity. For a few dollars per parcel it may be possible to statistically update values, do minimal reappraisal work, and improve horizontal and vertical equity to an extent, provided that market forces and property types are not disparate and staff training is adequate. When more heterogeneous conditions exist or when reappraisal has not been done for a long time, costs may top out over $80 per parcel to achieve the same results. Nevertheless, the costs of <u>not</u> revaluing are significant. In a dollar sense, inequities have been shown to approximate several hundred dollars per parcel. In a political or social sense, the "cost" may be in terms of undermining the property tax or at least the market value basis for the tax. At some point, after prolonged lack of reappraisal, re-establishment of current market value may

be virtually impossible politically or may be fraught, as appears to have happened in terms of appeals in Nassau County, New York with major subsidiary costs to be recognized.

It is important to focus on the benefits of frequent reappraisal and avoid the pitfall of focusing on cost comparisons. Differences between jurisdictions abound and distort this relationship so that it is subject to misinterpretation. Not only is the term "reappraisal" imbued with multiple meanings with differing cost implications, but the embedded costs and overhead of the assessment administrative agency can differ markedly as well. Beyond that, market factors and the presence of complex properties that may be much more costly to reappraise differ radically from place to place, so, spending that suffices to produce good equity in one jurisdiction does not come close to such an achievement in another, more heterogeneous jurisdiction.

Assessing officers and political leaders would do well to focus on the common goal of developing high quality underlying appraisals to produce explainable, transparent relationships between current value and current taxes. Such appraisals may be amenable to frequent update employing less costly means. The underlying reassessment system should incorporate frequent updates and periodic more complete reappraisals. There is no doubt that proper, professional and accountable reappraisal activities, including statistical updates can and do improve equity. It also seems apparent that physical changes in property will cause slippage in equity unless statistical updates are coupled periodically with reappraisal. Isn't this process implicit in an annually recurring tax?

With regard to the individual tax implications of low and high CODs, the data (Tables 2, 3, and 6) clearly shows that the likely magnitude of improvement in tax equity is far greater than any likely expenditure needed to achieve this improvement. Secondly, it is possible and desirable to review, and perhaps revise, the underlying property tax system to assure taxpayers that taxes are levied to meet the needs of government to provide services, and not just as some sort of unforeseen fallout or windfall that is an inevitable result of reappraisal activity. Third, there is much evidence that frequent reappraisal or reassessment activity does lead to better equity. When assessments are frozen or remain essentially unadjusted for many years, there may be a chimera of equity or concerns about inequity that develops and may result in political and practical difficulties. Alternatively, the underlying inequities inevitable without periodic adequate value adjustments may be so visible that taxpayer pressure confronts inertia and provokes reappraisal, as appears to have been the case in Nassau County, where continuing large numbers of appeals and hundreds of millions of dollars in annual tax refunds dramatically underscore the difficulties in re-establishing an equitable, market based system, following prolonged inactivity. That it is so difficult to move a frozen system to one with frequent value updates argues against freezing values in the first place.

Finally, it is imperative that assessing officers and their staff members understand both the appraisal issues and the linkages between assessments and taxes. Too often this is not true or there is insufficient effort to educate the public and the policy makers. When assessors fail to inform the political process about the linkages and about the advantages of current market value, alternate political solutions will be found. These include

assessment increase caps, which tend to undermine the equity issues that should be paramount. Ultimately the use of market value as an underpinning for the property tax may be sustainable if the system for determining that value engenders the public trust. So, in addition to equity, per se, frequent reappraisal, accompanied by the suggested model budget and levy linkages and public outreach efforts, is necessary to retain this trust. Costs associated with frequent reappraisal will have added validity and support provided all economic, political and social aspects of equitable appraisal are taken into consideration.