Selective Reappraisal (sales chasing) Testing through Comparison of Average Value and Subjective Variable Changes

This procedure document is intended to assist the assessor in testing for selective reappraisal practices. The comparison of average value changes will provide a good indication of whether or not sold and unsold properties were equitably reappraised. The comparison of subjective variable modifications may assist in identifying <u>how</u> sold vs. unsold properties were treated differently.

This document should be utilized in conjunction with IAAO standards. No test on its own can be solely relied upon as irrefutable proof of selective reappraisal. The results should always be reviewed with consideration given to sample size, random sample error, market conditions, and unique sale data, among many other potential influences.

Required Data:

To perform the following tests the appraiser first must have the ability to extract property data from their CAMA system and import that data into an excel spreadsheet. The data elements required are as follows:

- Parcel identification number (or other parcel specific identifier)
- Total parcel value
- Value attributed to new construction in change year (if applicable)
- Sale status (did the property sell or not)
- Subjective variable data (this can differ depending on the CAMA model being utilized)
  - Grade and/or quality rating
  - Effective age and/or condition rating
  - Override values
  - Appraiser determined obsolescence (whether lump-sum or percentage)
  - Any other data element which is subjective and adjustable by the appraiser.
    - Non-subjective data **should not be included.** These characteristics can be easily identified as correct or incorrect, examples include finished square footage, decks, bedroom and bathroom counts, etc.

Along with this data you may want to extract classification, jurisdiction, appraiser/CAMA user ID, sale study qualification status, sale date, or anything else you will be using to narrow down your inquiry. However, this is not required information if you are able to extract only the sample data that you want to test by eliminating properties that do not meet certain criteria from the data extract altogether.

Process:

1. **Determine your test parameters**

Timeframe:

You will need to first determine which time period you want to review for sales chasing. For this example I am going to review changes made for the 1/2/2013 assessment. An appraiser might make the mistake of separating sold vs. unsold based on sales occurring in the relevant 12-month study period (10/1/2011 through 9/30/2012 for the 2013 assessment). I would suggest considering **1;** when was the CAMA system unlocked for editing property information for the 1/2/2013 assessment and **2;** what is the typical lag time between the sales actually occurring and when it is documented with the county or city (brought to the appraiser's attention).
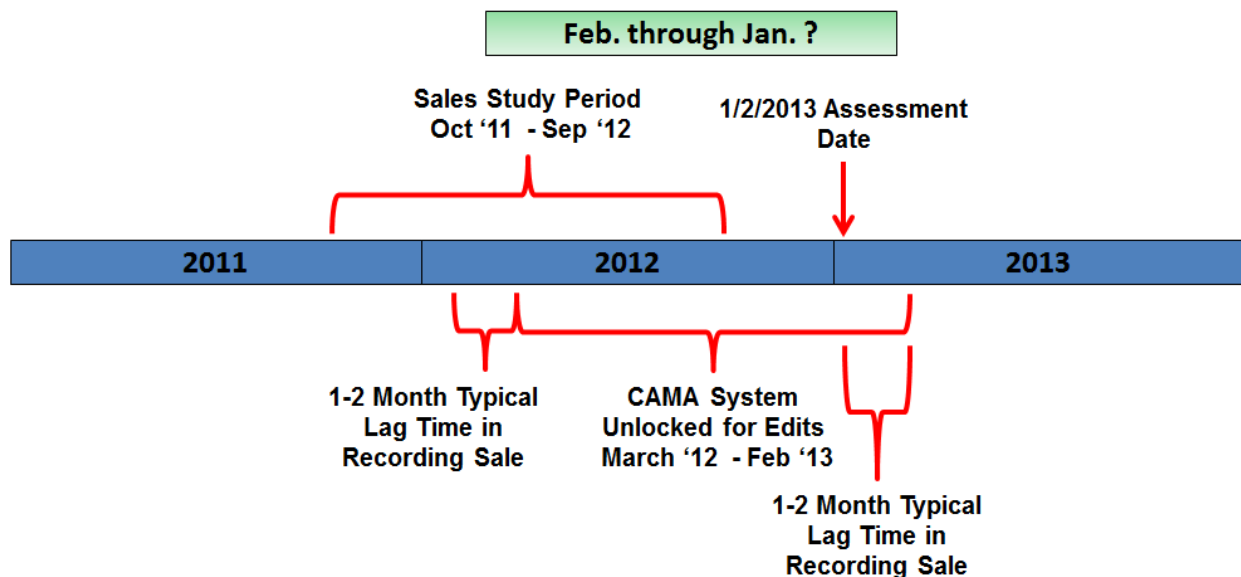
For the beginning date consider that most of the February 2012 sales were trickling in after the system was locked for editing the 1/2/2012 assessment. For the ending date it would depend what time of year I was running the report. If running the report on 3/1/2013 I could utilize sales from February 2012 through the end of February 2013 (13 months) because I know that the appraiser had access to all February 2013 sales in the system at that time. However, if I'm running the study May of 2013, then many of the sales from February of 2013 may have been entered after the system was locked and the apprasier didn't have access to them.

Every situation will be different depending on the above mentioned factors. For this example I'm going to utilize the February 2012 through January of 2013 sales because I am confident that those best represent the sales the appraiser had access to when considering the reappraisal for the 1/2/2013 assessment.

Properties to be tested:

The second step in the process is to determine what group of properties you want to test. Depending on the data extraction methods for your jurisdiction you may be able to include more data in the extract and then filter in the spreadsheet. Otherwise you could filter properties out when performing the extract. For this example I am filtering the extract to include only residential properties which are improved with a home and located in a specific city. This means that I do not need to include classification or jurisdiction in the data output. Most of the time it makes sense to include as many data elements as possible for filtering and sorting in the spreadsheet, that way you do not have to run exports and format spreadsheets over and over again.

2. Get the data into a spreadsheet

Most CAMA systems provide a method for extracting data from the system and importing into a spreadsheet. If you have never done this before you should consult with your vendor and/or I.T. department to determine how this may be possible. Even if a built-in method doesn't exist, your I.T. department should be able to assist you in finding a creative solution such as opening a text document in excel and utilizing "fixed-width" settings to create the necessary columns.

You can extract the data in as many segments as is required. You will likely end up with two excel files including data for the two assessment years that you will be comparing. For the 1/2/2013 assessment date I will be comparing the final 1/2/2012 data to the updated 1/2/2013 data. For various reasons, I have four different data extracts that I run. Whatever the number of extracts you have, each should be entered on its own separate sheet of a single excel file.

For this demonstration I have queried the system for:

- 2012 and 2013 values and subjective property characteristics
    - Home quality rating, effective age, and obsolescence
- Value attributed to new construction for the change year (2013)
- Sale price and sale ratio
    - Within the sale date range as determined in step one.
    - In reality, all that you **need** to know is whether or not the property sold in that timeframe, but the additional data will allow you to perform distribution analyses based on sale ratio if desired (eg. how were properties treated when sale ratios fell below 80%?)

Again, these data pieces and descriptions will differ based on what's being utilized in various jurisdictions.

3. Utilize the VLOOKUP excel feature to merge data onto one sheet

The VLOOKUP function will look at data from different sheets and merge them onto the same line for consolidation. You can't simply copy and paste even if you have all of the necessary info on two county-wide lists because parcels will have been created, retired, had class changes, etc.

For this example we will consolidate all of the data into sheet one which is currently labeled "2012 Data". Open the sheet and select the cell in the first blank column and the row below the header. Click on the "insert function" button and find the VLOOKUP function. Select VLOOKUP and press enter.
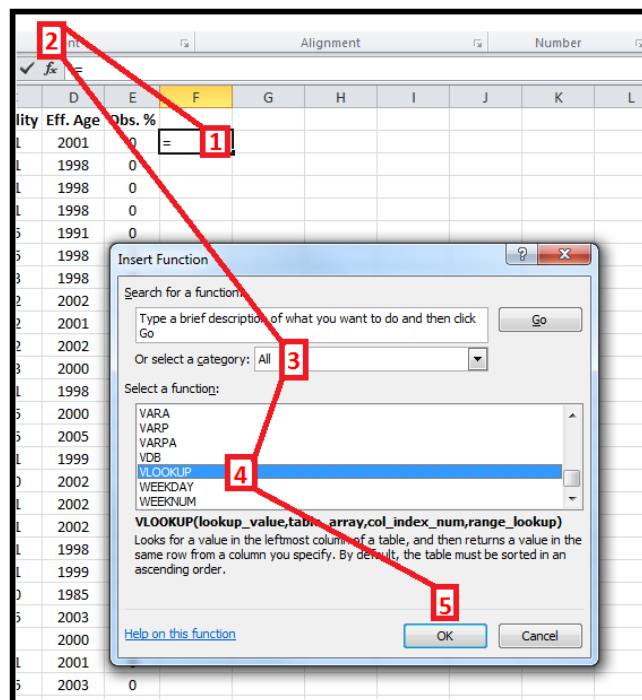
For the "lookup_value" select the PID in that row. This is the data it will be looking to match from the other sheet in order to bring back information.
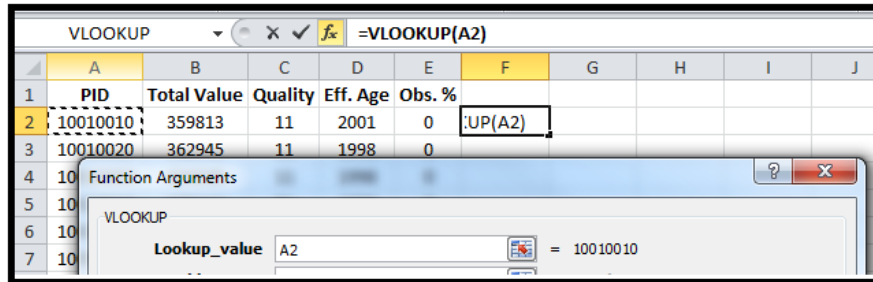
Click in the "Table_array" box. Now click on sheet two which is currently labeled "2013 Data". Now you should click on the "A" and drag to "E" so that you are selecting all of the columns containing data on this sheet. Once the perforated line is outlining the data click on the 3rd box "Col_index_num".
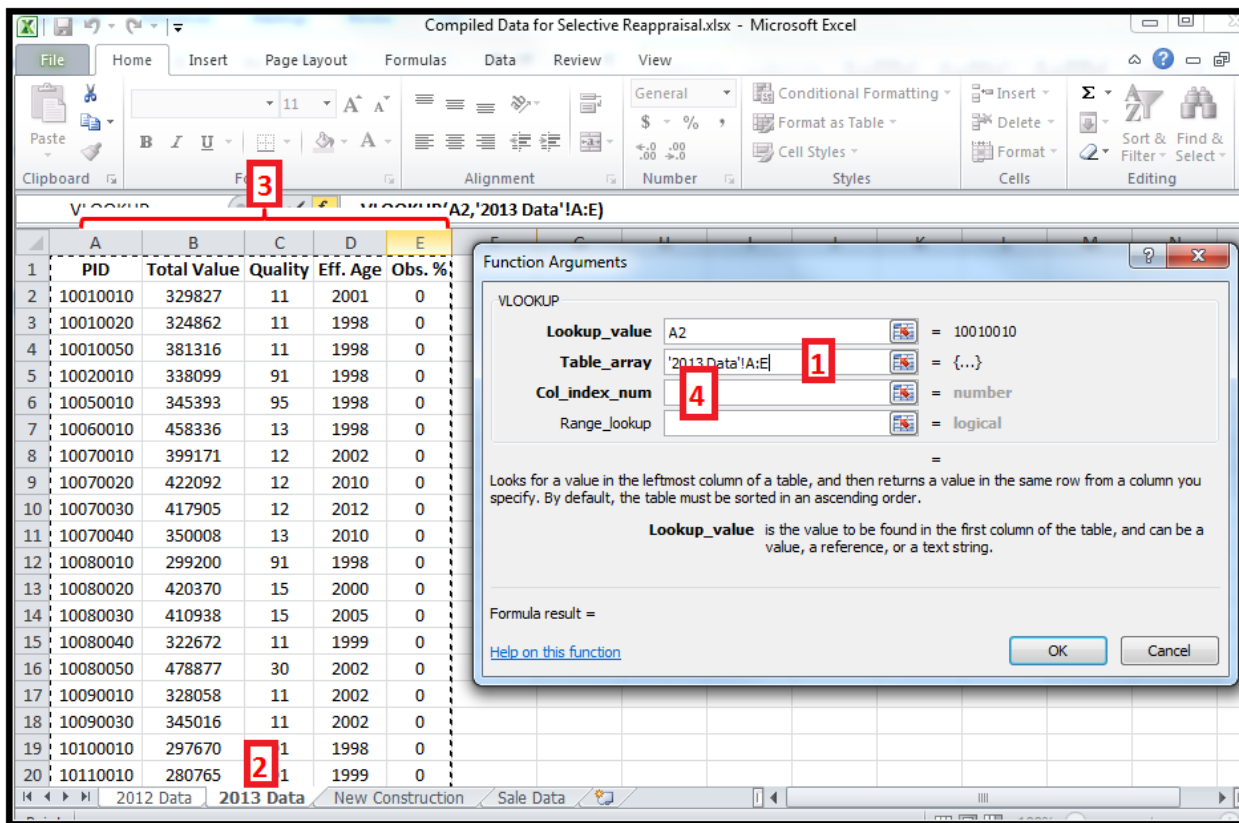
In the "Col_index_num" field you enter the column number from the sheet you have selected from which you want data returned. Column B is 2, C is 3, D is 4, and so on. In this case I wanted the "Total Value" column from the "2013 Data" sheet to report back. Once making the column entry be sure to change the "Range_lookup" to "false". Press OK.
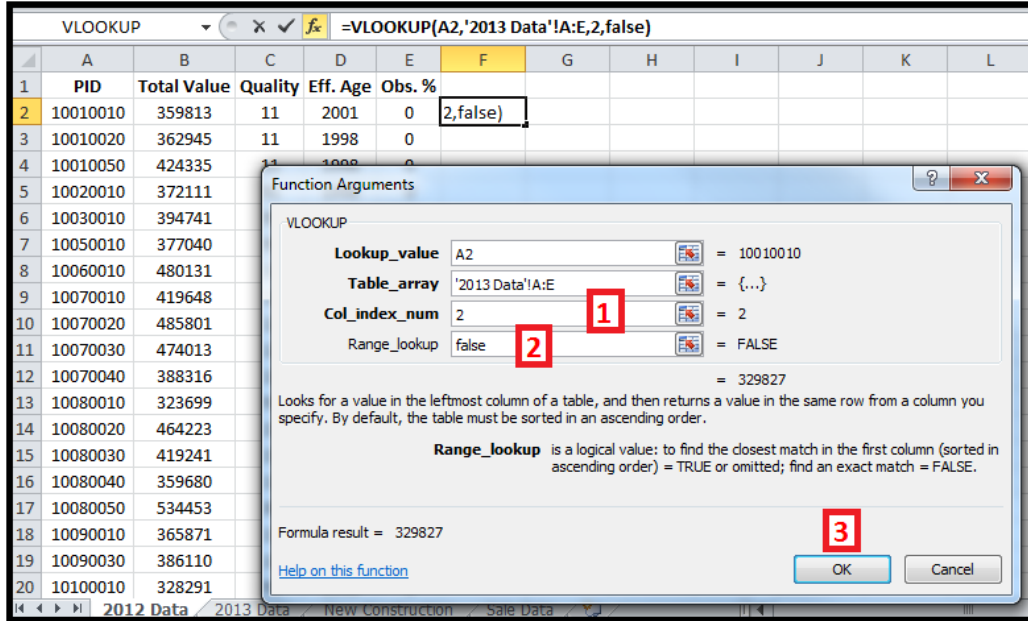
You will now see that the 2013 total value has been added to the sheet.
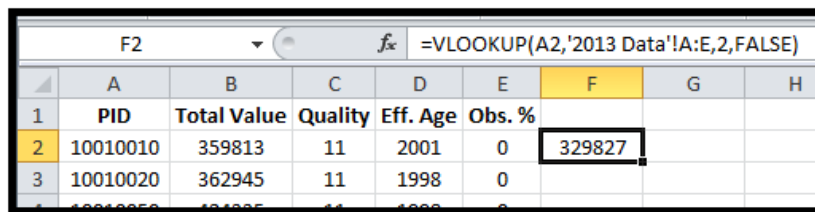
In order to copy and paste this into the next columns you must add dollar signs ($) in three locations.

=VLOOKUP($A2,'2013 Data'! $A: $E,2,FALSE)

Insert those dollar signs into the actual function for the cell.

6

Now copy and paste the formula into the next three columns because you are pulling 4 total columns of data from this sheet. You will notice that it returns the same data in each cell. You must go into each cell and change the column number to correlate with the data you want from the "2013 data" sheet. Click on each cell and update the column number as seen below.

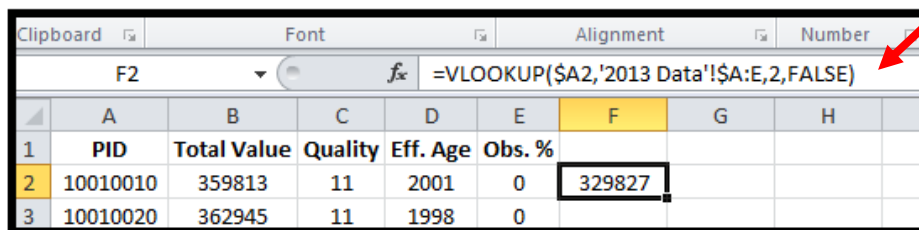Now that you have merged two years worth of data you will want to relabel your header accordingly to something you can understand.

	A	B	C	D	E	F	G	H	I
1	PID	2012 $	2012 Quality	2012 Eff. Age	2012 Obs.	2013 $	2013 Quality	2013 Eff. Age	2012 Obs.
2	10010010	359813	11	2001	0	329827	11	2001	0
3	10010020	362945	11	1998	0				

Repeat the above steps to add the data from any additional sheets in your workbook until all data is consolidated. You have to completely start with a new VLOOKUP function for each new sheet. Below I have consolidated all of the data from each sheet as displayed on page three of this procedure document.

L2   fx   =VLOOKUP($A2,'Sale Data'!$A:$C,3,FALSE)

	A	B	C	D	E	F	G	H	I	J	K	L
1	PID	2012 $	2012 Quality	2012 Eff. Age	2012 Obs.	2013 $	2013 Quality	2013 Eff. Age	2012 Obs.	2013 New Const. $	Sale Price	Ratio
2	10010010	359813	11	2001	0	329827	11	2001	0	0	#N	#N/A
3	10010020	362945	11	1998	0							
4	10010050	424335	11	1998	0							
5	10020010	372111	91	1998	0							

Once this is completed you can copy and paste the formulas for all of the columns.

44521	279130350	262123	70	1985	0	288299	70	1995	0	0	#N/A	#N/A
44522	279130360	217860	60	1995	0	227377	60	1995	0	0	#N/A	#N/A
44523	279130370	282432	65	1990	0	298841	65	1990	0	0	#N/A	#N/A
44524	279130380	229163	70	1990	0	243409	70	1990	0	3300	#N/A	#N/A
44525	279130390	232374	70	1990	0	244612	70	1990	0	0	#N/A	#N/A
44526	279130400	198646	70	1985	0	Eff. Age Change		1995	0	0	#N/A	#N/A
44527	279130410	189722	60	1985	0	195615	60	1995	0	0	#N/A	#N/A
44528	279130420	377885	70	1995	0	410816	70	1995	0	0	#N/A	#N/A
44529	279130430	279839	70	1995	0	292369	70	1995	0	0	#N/A	#N/A
44530	279130440	205120	60	1990	0	213483	60	1990	0	0	#N/A	#N/A
44531	279130450	230226	60	1980	0	240003	60	1980	0	0	#N/A	#N/A
44532	279130470	1450043	60	1960	0	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A
44533	279130480	315710	70	19 Grade Change		1722	70	1985	0	0	#N/A	#N/A
44534	279130500	200558	60	1985	0	222951	65	1985	0	0	#N/A	#N/A
44535	279130510	218363	70	1985	0	245404	70	1985	0	0	#N/A	#N/A
44536	279130520	216622	70	1985	0	228827	70	1985	0	0	#N/A	#N/A
44537	279130530	184691	70	1985	0	184600	70	1985	0	0	#N/A	#N/A
44538	279130541	294201	90	1985	0	314833	80	1990	0	0	#N/A	#N/A
44539	279130550	444653	95	1990	0	483647	95	1990	0	0	#N/A	#N/A
44540	279130560	254214	70	1990	0	206869	70	1980	35	0	#N/A	#N/A
44541	279130570	322265	70	1990	0	343278	70	1990	Sold Property	0	355000	96.7
44542	279130580	218243	70	1990	0	230067	70	1990	0	0	#N/A	#N/A
44543	279130590	301694	70	1990	0	311450	70	1990	0	0	#N/A	#N/A
44544	279130730	406036	91	1995	0	425154	91	1995	0	0	#N/A	#N/A

At this point I recommend saving the workbook, copying all of the data, and pasting into a new excel workbook for the remainder of the process. This will preserve the original data in case you need to go backwards. Sorting data and working with the pivot table will also run more smoothly as you will have eliminated the formulas and lookups.

4. **Clean up the data**

Sort the data by new construction amount, delete all parcels with new construction values. Sort the imported grades column and delete any "NA" data, these are properties where the parcel may have been deleted from the CAMA system, the building was removed, etc. (eg. row 44532 in the above screen capture would be deleted from this test because the parcel no longer exists in 2013 due to a split of the property).

At this point I like to rearrange the columns so that similar data pieces are next to eachother as seen below. This is accomplished by cutting and pasting a column into the desired location.

	A	B	C	D	E	F	G	H	I	J	K	L
1	PID	2012 $	2013 $	2012 Quality	2013 Quality	2012 Eff. Age	2013 Eff. Age	2012 Obs.	2013 Obs.	2013 New Const. $	Sale Price	Ratio
2	10010010	359813	329827	11	11	2001	2001	0	0	0	#N/A	#N/A
3	10010020	362945	324862	11	11	1998	1998	0	0	0	#N/A	#N/A
4	10010050	424335	381316	11	11	1998	1998	0	0	0	#N/A	#N/A
5	10020010	372111	338099	91	91	1998	1998	0	0	0	#N/A	#N/A
6	10050010	377040	345393	95	95	1998	1998	0	0	0	#N/A	#N/A
7	10060010	480131	458336	13	13	1998	1998	0	0	0	#N/A	#N/A
8	10070010	419648	399171	12	12	2002	2002	0	0	0	#N/A	#N/A
9	10070020	485801	422092	12	12	2001	2010	0	0	0	#N/A	#N/A

## 5. Add columns to report changes in value and subjective variables

Create a column for % change in value from 2012 to 2013. By right-clicking the column D label and selecting "insert" I have created a new blank column and labeled it % CHG. I then type in the appropriate formula and copy-paste it into the entire column.


Once you have pasted this formula for the entire column one last data clean-up process needs to take place. Sort the % change column by value to identify any outliers. There isn't a magic range to utilize, but if a property value changed by more than ±100% I would give it a second look. For instance, the property below with a 210.7% increase in value was actually a tear-down and rebuild of a lake home property. The appraiser failed to enter a new construction value for the 2013 assessment so it was included in the test. Depending on sample size having one 200% ratio probably isn't going to throw off the overall results. There are a number of scenarios that could possibly result in a 1,000% or more change which can seriously affect the test results.

40554	272470010	156108	223871	43.4%	95	95	0	2005	2005	0	0	0	0	#N/A #N/A
40555	272470080	155751	223371	43.4%	95	95	0	2005	2005	0	0	0	0	#N/A #N/A
40556	258010120	567657	1763687	210.7%	60	57	1	1975	2012	1	0	0	0	#N/A #N/A

Insert another blank column next to each subjective variable pairing. Below I have done so for the "Quality" rankings. Insert the column and find the "IF" function.
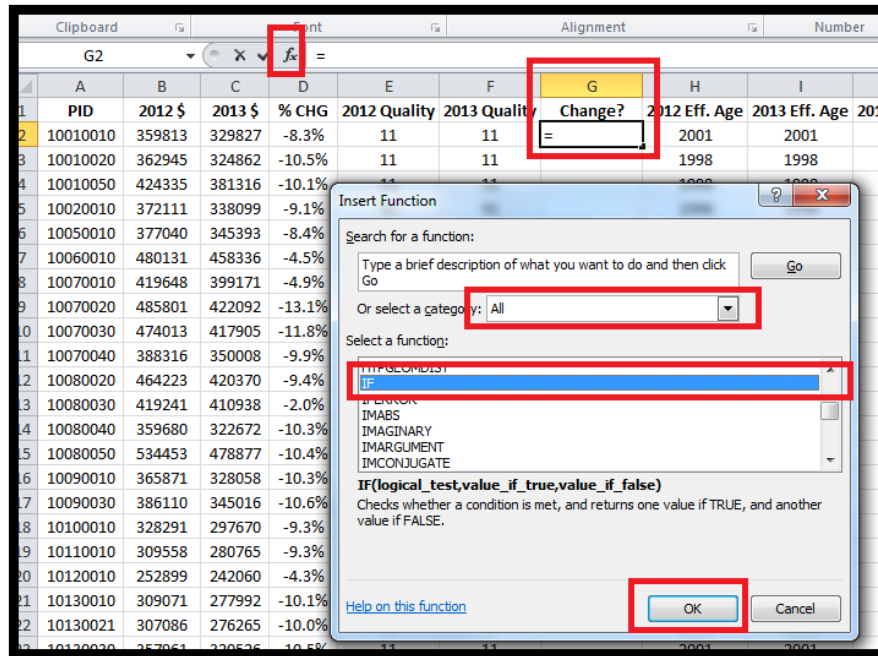
In the "logical_test" field enter the two columns for comparison. To determine if a quality change occurred I have inputted the parameters to determine if the 2012 quality rating is equal to the 2013 quality rating (E2=F2). In the next box I have entered a "0" if the quality ratings are equal to eachother, indicating there <u>is no difference</u> in rating. In the third box I have indicated that if there <u>is a difference</u> a "1" should be returned. You could utilize a no/yes output here, but for statisitcal analyses later the 0/1 relationship is easier to work with.
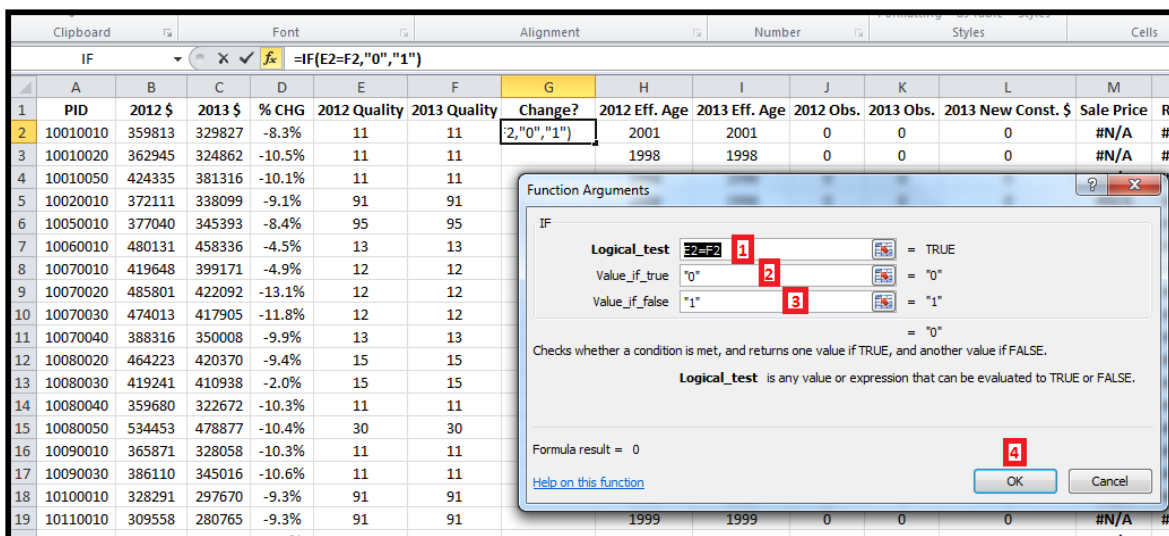
Copy and paste that formula throughout the entire column. You will notice that the properties which received a change to the quality rating are inidcated by a "1".

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	PID	2012 $	2013 $	% CHG	2012 Quality	2013 Quality	Change?	2012 Eff. Age	2013 Eff. Age	2012 Obs.	2013 Obs.	2013 New Const. $	Sale Price	Ratio
44	10220010	252730	230962	-8.6%	95	95	0	2002	2002	0	0	0	#N/A	#N/A
45	10230010	221263	203839	-7.9%	65	65	0	1975	1975	0	0	0	#N/A	#N/A
46	10240010	217778	201437	-7.5%	65	65	0	1960	1960	0	0	0	#N/A	#N/A
47	10240020	520575	483040	-7.2%	91	91	0	2003	2003	0	0	0	#N/A	#N/A
48	10260010	336546	301895	-10.3%	5	5	0	2003	2003	0	0	0	#N/A	#N/A
49	10270010	331864	340020	2.5%	91	5	1	2007	2007	0	0	0	#N/A	#N/A
50	10270020	339058	376581	11.1%	91	5	1	2003	2005	0	0	0	#N/A	#N/A
51	10270030	430942	446052	3.5%	11	12	1	2005	2005	0	0	0	#N/A	#N/A
52	10280010	320599	288671	-10.0%	91	91	0	2003	2003	0	0	0	#N/A	#N/A
53	10290020	471881	424586	-10.0%	5	5	0	2009	2009	0	0	0	#N/A	#N/A

Repeat this process for all subjective variable data in your sheet.

M1 — Obs. Change?

|	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	PID	2012 $	2013 $	% CHG	2012 Quality	2013 Quality	Qual Change?	2012 Eff. Age	2013 Eff. Age	Eff. Age Change?	2012 Obs.	2013 Obs.	Obs. Change?	Sale Price	Ratio
2	10010010	359813	329827	-8.3%	11	11	0	2001	2001	0	0	0	0	#N/A	#N/A
3	10010020	362945	324862	-10.5%	11	11	0	1998	1998	0	0	0	0	#N/A	#N/A
4	10010050	424335	381316	-10.1%	11	11	0	1998	1998	0	0	0	0	#N/A	#N/A
5	10020010	372111	338099	-9.1%	91	91	0	1998	1998	0	0	0	0	#N/A	#N/A
6	10050010	377040	345393	-8.4%	95	95	0	1998	1998	0	0	0	0	#N/A	#N/A
7	10060010	480131	458336	-4.5%	13	13	0	1998	1998	0	0	0	0	#N/A	#N/A
8	10070010	419648	399171	-4.9%	12	12	0	2002	2002	0	0	0	0	#N/A	#N/A
9	10070020	485801	422092	-13.1%	12	12	0	2001	2010	1	0	0	0	#N/A	#N/A
10	10070030	474013	417905	-11.8%	12	12	0	2002	2012	1	0	0	0	#N/A	#N/A
11	10070040	388316	350008	-9.9%	13	13	0	2000	2010	1	0	0	0	#N/A	#N/A
12	10080020	464223	420370	-9.4%	15	15	0	2000	2000	0	0	0	0	#N/A	#N/A

6. Create a pivot table in order to analyze the data

Select all of the columns containing data on the sheet and the insert the pivot table by selecting the "Insert tab" and then clicking on "PivotTable".

|	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	PID	2012 $	2013 $	% CHG	2012 Quality	2013 Quality	Qual Change?	2012 Eff. Age	2013 Eff. Age	Eff. Age Change?	2012 Obs.	2013 Obs.	Obs. Change?	Sale Price	Ratio
2	10010010	359813	329827	-8.3%	11	11	0	2001	2001	0	0	0	0	#N/A	#N/A
3	10010020	362945	324862	-10.5%	11	11	0	1998	1998	0	0	0	0	#N/A	#N/A
4	10010050	424335	381316	-10.1%	11	11	0	1998	1998	0	0	0	0	#N/A	#N/A
5	10020010	372111	338099	-9.1%	91	91	0	1998	1998	0	0	0	0	#N/A	#N/A
6	10050010	377040	345393	-8.4%	95	95	0	1998	1998	0	0	0	0	#N/A	#N/A
7	10060010	480131	458336	-4.5%	13	13	0	1998	1998	0	0	0	0	#N/A	#N/A
8	10070010	419648	399171	-4.9%	12	12	0	2002	2002	0	0	0	0	#N/A	#N/A
9	10070020	485801	422092	-13.1%	12	12	0	2001	2010	1	0	0	0	#N/A	#N/A
10	10070030	474013	417905	-11.8%	12	12	0	2002	2012	1	0	0	0	#N/A	#N/A
11	10070040	388316	350008	-9.9%	13	13	0	2000	2010	1	0	0	0	#N/A	#N/A
12	10080020	464223	420370	-9.4%	15	15	0	2000	2000	0	0	0	0	#N/A	#N/A

A window will pop-up confirming the data you have selected. If it is correct press "OK". A new sheet will have been created for the pivot table appearing similar to the one below.
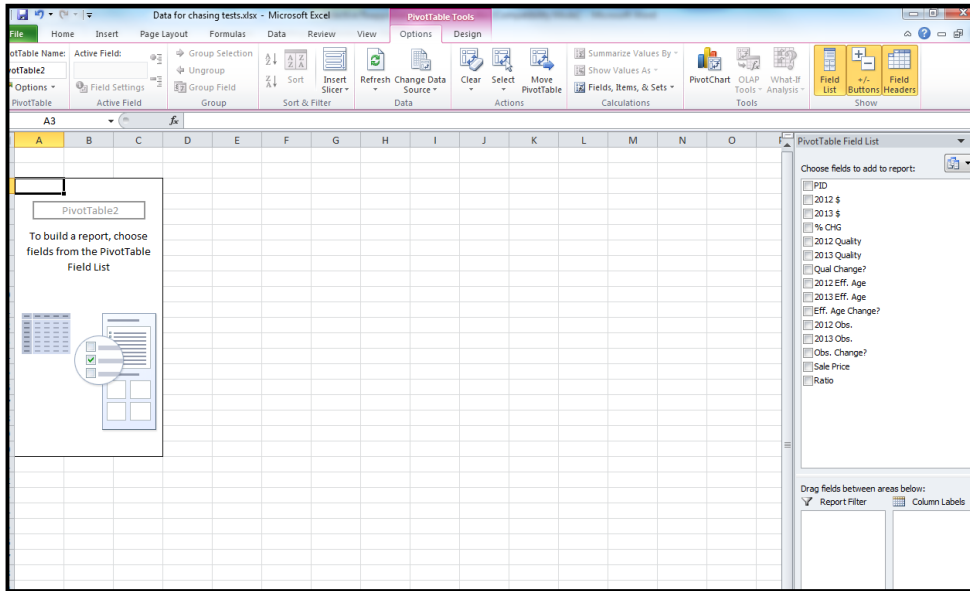
Click and drag the parcel ID, % of value change, and all subjective variable change data pieces into the "Values" box.
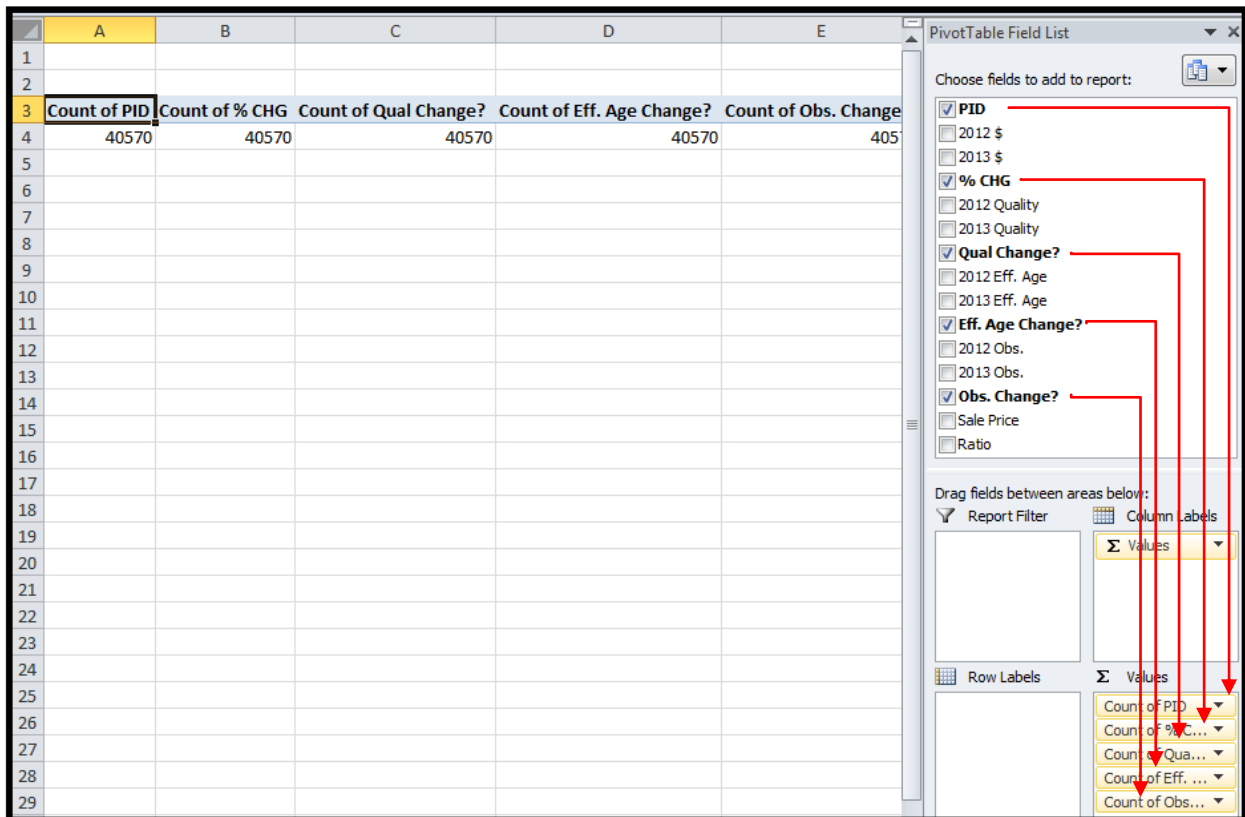
Change the formula for the % change from count to average.
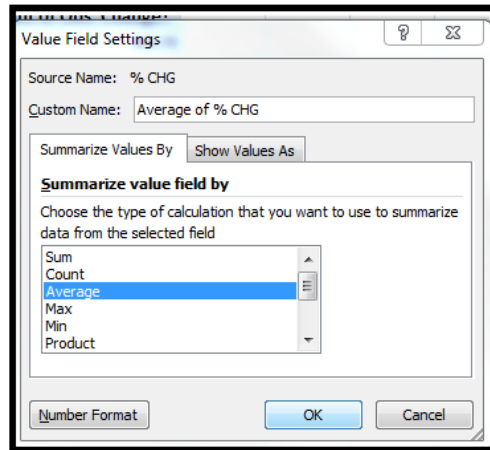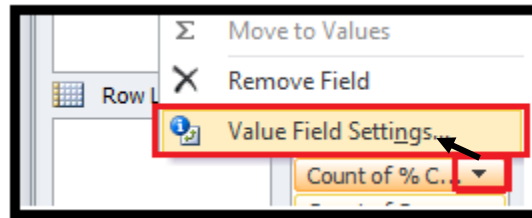
Now change all of the subjective variable change settings from count to sum the same way you changed the % of change to an average. The sheet should now look like this:

If you imported any additional data for which you would like the ability to filter by, you need to drag those data pieces into the "Report Filter" box. This may include classification, jurisdiction, cama user, etc. One thing that you must be able to filter by is sold vs. unsold. I have added "ratio" so that I can filter for properties that have a value in that column (sold), and properties that do not (unsold, or "#N/A" on the sheet).
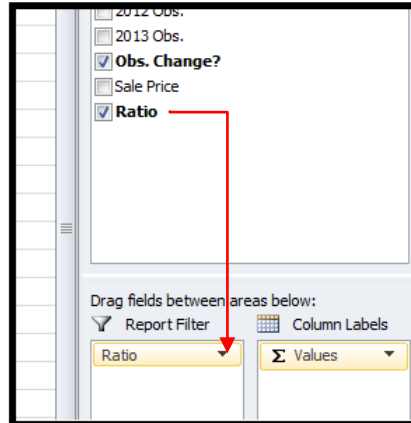
You will need to add simple formulas to the sheet in order to calculate the % of the properties being considered which had the specific subjective variable change. In the example below the formula for cell C5 is "C4/A4", cell D5 is "D4/A4", and cell E5 is "E4/A4". Then all you need to do is reformat the those new cells to percentages.

	A	B	C	D	E	F
	E5		fx	=GETPIVOTDATA("Sum of Obs. Change?",A3)/GETPIVOTDATA("Count of PID",A3)		
1	Ratio	(All)				
2						
3	Count of PID	Average of % CHG	Sum of Qual Change?	Sum of Eff. Age Change?	Sum of Obs. Change?	
4	8656	3.06%	413	620	2	
5			4.77%	7.16%	0.02%	
6						

You will notice that all of the parcels in the city are being considered for a total of 8,656. Of those proeprties the average value change was 3.06%, 4.77% of properties had a Quality change, 7.16% of properties had an effective age change, and 0.02% received an obsolesence change.

7. Build a template for tracking data

This is as simple as copying and pasting the information header below and then creating separate lines for total, sold, and unsold. Because you may have imported more than one city to be analyzed you may have to perform this step for each separate analysis you perform.
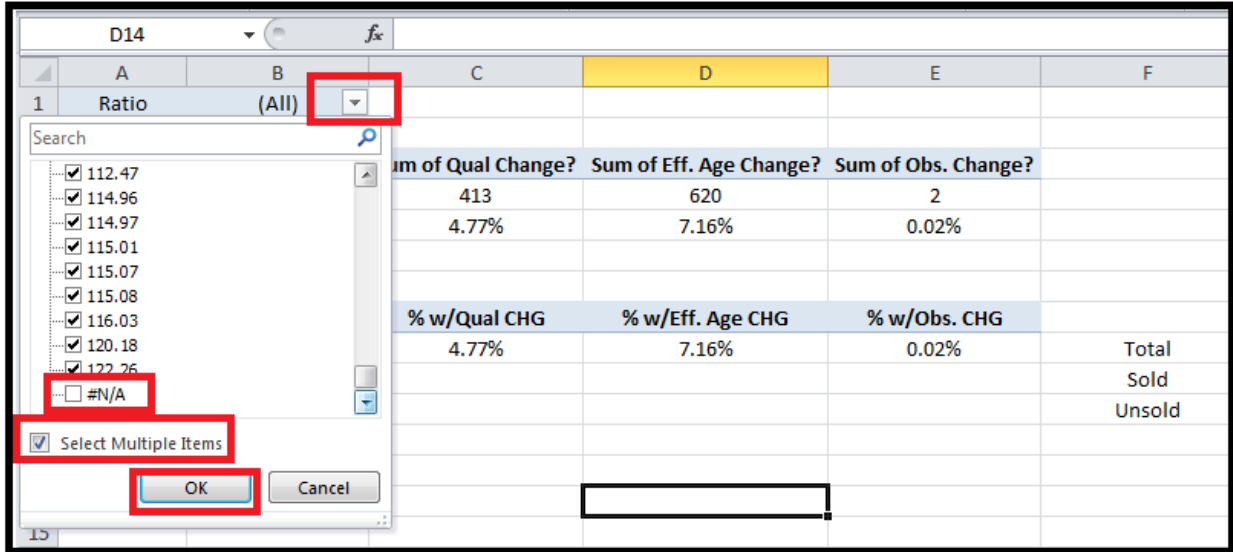
	F15		f_x		
	A	B	C	D	E	F
1	Ratio	(All) ▼				
2						
3	Count of PID	Average of % CHG	Sum of Qual Change?	Sum of Eff. Age Change?	Sum of Obs. Change?	
4	8656	3.06%	413	620	2	
5			4.77%	7.16%	0.02%	
6						
7	City of Savage					
8	Count of PID	Average of % CHG	Sum of Qual Change?	Sum of Eff. Age Change?	Sum of Obs. Change?	
9						Total
10						Sold
11						Unsold
12						

8. Filter data as desired and document results

Per the data for the city total above I have manually entered the first line of data as seen below. I have also changed the labels for my template so that they describe the data being transferred.

	D14		f_x		
	A	B	C	D	E	F
1	Ratio	(All) ▼				
2						
3	Count of PID	Average of % CHG	Sum of Qual Change?	Sum of Eff. Age Change?	Sum of Obs. Change?	
4	8656	3.06%	413	620	2	
5			4.77%	7.16%	0.02%	
6						
7	City of Savage					
8	Count of PID	Average of % CHG	% w/Qual CHG	% w/Eff. Age CHG	% w/Obs. CHG	
9	8565	3.06%	4.77%	7.16%	0.02%	Total
10						Sold
11						Unsold

Now filter the data based on sold or unsold. In this case I will determine changes to sold proeprties by selecting all possible ratio entries and then unselecting any cells with "#N/A".

Manually type the returned data into the template.

Utilizing the same method, find the results for unsold.

		Sum of Qual Change?	Sum of Eff. Age Change?	Sum of Obs. Change?	
		12	20	0	
		4.48%	7.46%	0.00%	
		% w/Qual CHG	% w/Eff. Age CHG	% w/Obs. CHG	
		4.77%	7.16%	0.02%	Total
		4.48%	7.46%	0.00%	Sold
					Unsold

Search dialog: 112.47, 114.96, 114.97, 115.01, 115.07, 115.08, 116.03, 120.18, ✔ #N/A, ☑ Select Multiple Items, OK, Cancel

And fully completed below

	Count of PID	Average of % CHG	Sum of Qual Change?	Sum of Eff. Age Change?	Sum of Obs. Change?	
4	8388	3.05%	401	600	2	
5			4.78%	7.15%	0.02%	
6						
7	City of Savage					
8	Count of PID	Average of % CHG	% w/Qual CHG	% w/Eff. Age CHG	% w/Obs. CHG	
9	8656	3.06%	4.77%	7.16%	0.02%	Total
10	268	3.35%	4.48%	7.46%	0.00%	Sold
11	8388	3.05%	4.78%	7.15%	0.02%	Unsold
12						

The particular example used for this procedure document is an excellent example of uniformity when reviewing the way that sold properties were reappraised in comparison to unsold properties.

9. Additional review of data

The overall results may cause concern. This is the case with the data presented below:

	A	B	C	D	E	F
1	Status	UNSOLD				
2						
3	Count of PID	Average of Value Change	Sum of Qual Change	Sum of Eff. Age Change	Sum of SPCD Change	
4	4601	11.54314714	1099	56	71	
5			23.9%	1.2%	1.5%	
6						
7						
8	City - 2003 Assessment					
9	Count of PID	Average of % CHG	% w/Qual CHG	% w/Eff. Age CHG	% w/Obs. CHG	
10	4907	12.27%	27.60%	2.70%	1.70%	Total
11	306	23.17%	84.00%	24.80%	4.20%	Sold
12	4601	11.54%	23.90%	1.20%	1.50%	Unsold
13						

In this scenario I would suggest actually revieiwng the indivdual data to determine if outliers got through, or some other glitch occurred. Sorting the data by parcel ID number and manually scrolling through the data will immediately reveal the source of such selective reappraisal. It will become apparent very quickly if sold and unsold properties were actually being treated differently as seen below. In this case, the appraiser's subjective data piece of preference was the quality rating.

	A	B	C	D	E	F	G
1	PID	Status	Value Change	Qual Change	Eff. Age Change	SPCD Change	
2666		UNSOLD	5	0	0	0	
2667		UNSOLD	4.91	0	0	0	
2668		UNSOLD	5.56	0	0	0	
2669		SOLD	15.72	1	0	0	
2670		UNSOLD	5.53	0	0	0	
2671		UNSOLD	6.13	0	0	0	
2672		UNSOLD	4.87	0	0	0	
2673		SOLD	15.38	1	0	0	
2674		UNSOLD	5.49	0	0	0	
2675		UNSOLD	4.88	0	0	0	
2676		UNSOLD	5.24	0	0	0	
2677		SOLD	11.12	1	0	0	
2678		UNSOLD	4.97	0	0	0	
2679		UNSOLD	5.38	0	0	0	
2680		UNSOLD	4.92	0	0	0	
2681		UNSOLD	5.09	0	0	0	
2682		UNSOLD	5.61	0	0	0	
2683		UNSOLD	4.89	0	0	0	
2684		UNSOLD	5.07	0	0	0	
2685		UNSOLD	4.93	0	0	0	
2686		SOLD	19.03	1	0	0	
2687		UNSOLD	5.47	0	0	0	
2688		SOLD	11.17	1	0	0	
2689		UNSOLD	5.34	0	0	0	
2690		UNSOLD	5.08	0	0	0	
2691		UNSOLD	5.07	0	0	0	
2692		UNSOLD	4.88	0	0	0	
2693		UNSOLD	5.74	0	0	0	
2694		UNSOLD	4.73	0	0	0	
2695		UNSOLD	7.73	1	1	0	
		UNSOLD	5.2	0	0	0	

"…sold properties may be disproportiantely concentrated in growth areas where values have increased more rapidly than elsewhere. For this reason, it can be prudent to allow an acceptable window or tolerance zone, say, 3 percent or 5 percent, before concluding that any observed differences are meaningful."

<div align="right">

-IAAO. *Fundamentals of Mass Appraisal.* 2011. Print.

</div>

Although the IAAO offers a 3 <u>or</u> 5 percent suggested tolerance zone, these zones could be significantly different based on the properties and area. For instance, if you were reviewing one specific neighborhood and the properties were all very similar, the acceptable zone may be less than 3%.

It's also very important to consider that the 3 <u>or</u> 5 percent zone is intended for the average value change percent. When revieiwing subjective variable changes you may notice that 8% of sold properties received quality changes, while only 4% of unsold properties received quality changes. Although this is within 4 percentage points, the situation is clearly different than the average percent value change because sold properties were <u>twice as likely</u> to receive quality changes, indicating that they were clearly being reappraised differently.

<u>Conclusion</u>

Selective reappraisal of properties creates significant issues for assessors by resulting in misleading ratio study statistics. The longer the practice continues the more difficult it becomes to correct without a complete reappraisal.

As assessors we should all be conducting selective reappraisal testing in house. We should welcome the opportunity to review and correct undesired actions by staff, outdated policies, or long standing procedures which have never been reviewed or challenged.