Rural Valuation Topic #RVT 17: Paired Sales Analysis & Subject ER Valuation Procedure

Paired Sales Analysis is defined as, "a quantitative technique used to identify and measure adjustments to the sale prices or rents of comparable properties; to apply this technique, sales or rental data on nearly identical properties is analyzed to isolate and estimate a single characteristic's effect on value or rent"[1].

The phrase of "nearly identical" may only exist in portions of the U.S. In rural markets, most practitioners have adopted ASFMRA's market-based technique to deal with sales with lower degrees of similarity. The procedure is not needed if the subject or sale has only *one* land type e.g., Class III cropland or open native pasture. For properties with multiple land types, the <u>*allocation*</u> process begins by identifying the relationship(s) between land categories expressed as price ratios. Once a price is allocated, "paired" sales analysis is easy. Differences between properties, such as productivity, size, location, etc., are reflected within each land or building type proportionately because of ratios.

The use of the 100% price "level" or "line" is recommended because any pairing represents the total adjustment "**as if" the subject had <u>ALL</u> 100% land**. The only apparent difference between Sales 22 and 24 is productivity at $500/acre ($3,800 - $3,300/acre) for Land Type 1. **However, if the subject has an "Equivalency Rating" (ER) of 80%,** the productivity adjustment would be calculated at
$500/acre X 80% = ~$400/acre (green below) to "adjust the adjustment" to the subject's composition. Pairings for other factors (size and access as shown) would also be adjusted to the subject's proportionality.

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[1] Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 6th Ed., (Chicago: AI 2015, p. 167)

Paired Sales *(with Ratios from 100% Allocation Line)* **& Subject Valuation with ER**

Land Category	Ratios	Appraiser's Sale Allocation				
		Sale 22 $/Acre	Sale 23 $/Acre	Sale 24 $/Acre	Sale 25 $/Acre	Sale 26 $/Acre
Land Type 1	100%	$ 3,800	$ 3,100	$ 3,300	$ 2,800	$ 3,000
Land Type 2	75%	$ 2,850	$ 2,325	$ 2,475	$ 2,100	$ 2,250
Land Type 3	50%	$ 1,900	$ 1,550	$ 1,650	$ 1,400	$ 1,500
Land Type 4	25%	$ 950	$ 775	$ 825	$ 700	$ 750
Subject's ER	80%	*< Given in this example (calculations not shown)*				

Subject		Sale Elements				
Productivity	Ave	Good	Ave	Ave	Ave	Ave
Size	Small	Ave	Ave	Ave	Small	Small
Access	Ave	Ave	Good	Ave	Good	Ave

Prod. Pairing	Sale 22 $	3,800			Subj. ER	Sale Adj.
	Sale 24 $	3,300	$/Ac. Diff: $	500	80%	$ 400

Size Pairing	Sale 24 $	3,300				
	Sale 26 $	3,000	$/Ac. Diff: $	300	80%	$ 240

Access Pairing	Sale 24 $	3,300				
	Sale 23 $	3,100	$/Ac. Diff: $	200	80%	$ 160

Subject's Value — $3,000 per acre for $100% land X 80% ER =$2,400/acre

[Then "Allocate" to the subject's land categories based on its ratios; or using $2,400/acre X 100%, 75%, 50% and 25% like sales for blended $/ac.]

Note #1: Pairing is also possible from Land Type 2, 3, and 4 since the price was allocated from ratios proportionately. However, the pairing of Land Types 2, 3 and 4 requires one additional calculation to convert it to 100%. For example, Land Type 3, with a ratio of 50%, is analyzed as follows:

1. **Land Type #3**: Sale 22 versus Sale 24 is $1,900 versus $1,650, or a difference of $250/acre
2. Divide $250/acre by **50% (line where measurement occurred)** = $500/acre (to reflect 100%)
3. Then multiply $500 by the Subject's ER of 80% = $400/acre --- the correct adjustment to the subject.

While possible to extract adjustments from Types 2 through 4, using the 100% line eliminates "step two".

ASFMRA's Recommendation: The price allocation from Land Type #1 with the 100% ratio minimizes the number of calculations and standardizes the dataset. The use of the standardized data facilitates the paired sales analysis (pairings) and conveys the influence of proportionality on sale prices with multiple layers (land and building types within the whole).