# *Measuring the Quality of Reappraisal*

**Commercial Property – 2009 Reappraisal**

Montana Department of Revenue

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Table 5 shows the same measures of reappraisal for properties valued using the income and cost methods of appraising property. Both methods are similar in all measures of the quality of reappraisal. In addition to comparing the summary statistics, a t-test was preformed indicating that there is no difference in the assessment levels between the two valuation methods.

**Table 5: Assessment Level and Uniformity**

Comparing Income and Cost Methods of Appraisal

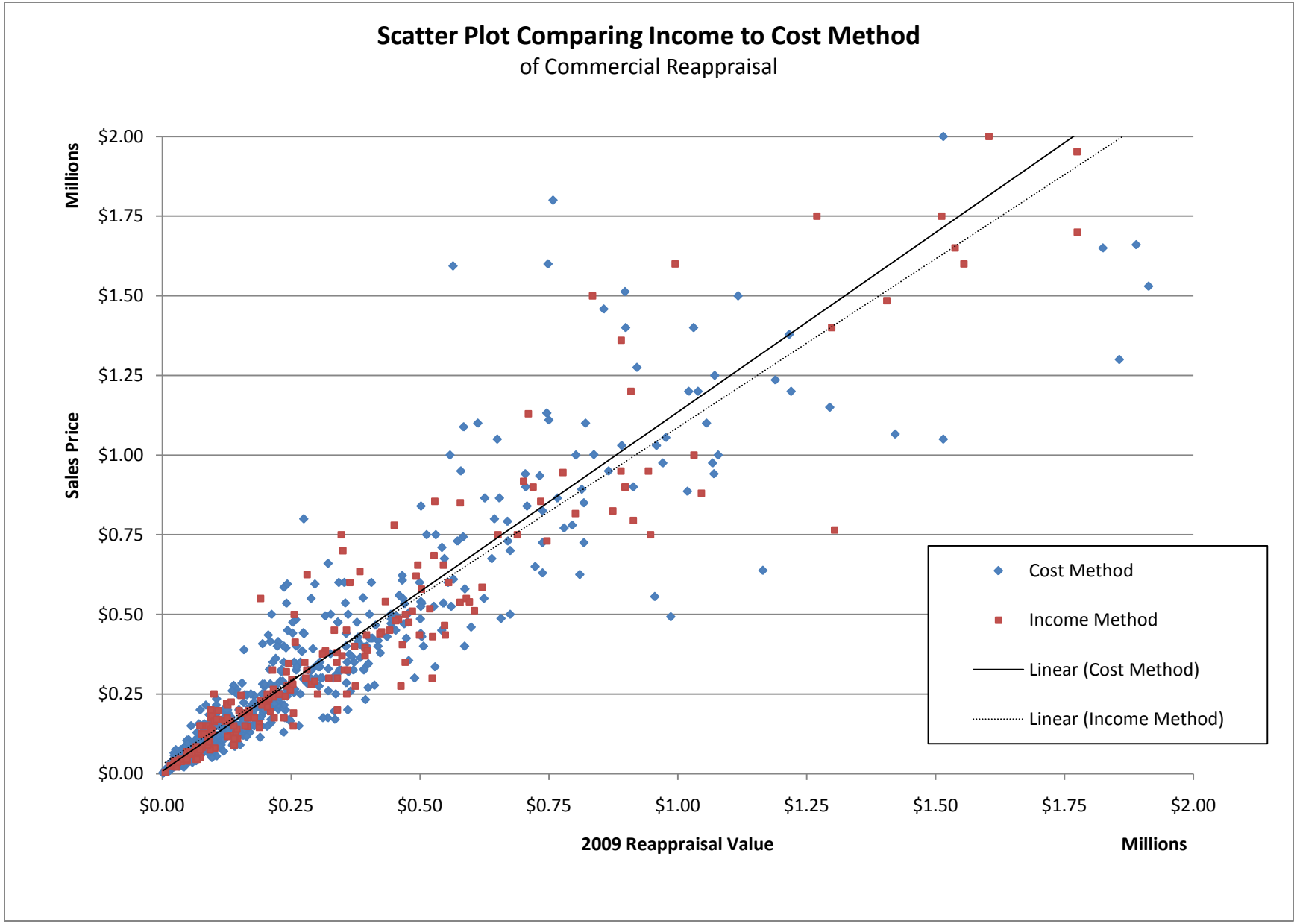
| | | Measures of Appraisal Level | | | | | | | Measures of Uniformity | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Confidence Interval | | | Confidence Interval | | | | | |
| | N | Median | Lower Bound | Upper Bound | Mean | Lower Bound | Upper Bound | Weighted Mean | COD | Standard Deviation | Price Related Differential |
| Cost | 599 | 0.8960 | 0.8733 | 0.9258 | 0.9202 | 0.8958 | 0.9445 | 0.8661 | 25.62 | 0.3035 | 1.06 |
| Income | 214 | 0.9215 | 0.8843 | 0.9511 | 0.9321 | 0.89537 | 0.9687 | 0.8927 | 22.16 | 0.2721 | 1.04 |

Clearly, the residential reappraisal produces a more satisfying set of reappraisal statistics; that is because residential property is much more homogeneous compared to commercial. It can be expected that reappraisal of commercial property is more complicated, so the measures of appraisal level and the measures of uniformity are likely to be farther from the ideal.

The final question for judging the quality of commercial reappraisal is whether there exists a meaningful difference between the assessment ratios of residential and commercial property. A t-test was used to test if residential and commercial property have a statistically significant difference in assessment ratios. The null hypothesis is that the difference between the mean assessment level for residential and commercial property equals 0. The null hypothesis cannot be rejected at the 95% confidence level, meaning that there is not a statistically significant difference in the assessment levels. Residential and commercial properties are assessed at similar levels of value.

## Conclusion

The Department attempted to measure the quality of the reappraisal of commercial property using a sales assessment ratio study. The results are not as satisfying as the residential reappraisal, but that is because of the differences between commercial and residential appraisal. The valuation of commercial property is much more complicated and there is less available data to use when deriving a market value. This is reflected in the IAAO guidelines. There is more variation and fewer sales so more exacting


Scatter Plot Comparing Income to Cost Method
of Commercial Reappraisal
Sales Price
Millions
$2.00
$1.75
$1.50
$1.25
$1.00
$0.75
$0.50
$0.25
$0.00
$0.00
$0.25
$0.50
$0.75
$1.00
$1.25
$1.50
$1.75
$2.00
2009 Reappraisal Value
Millions
Cost Method
Income Method
Linear (Cost Method)
Linear (Income Method)