

Time Adjustments

PACE Course Presentation

Sales Ratio Studies

Why Time Adjustments?

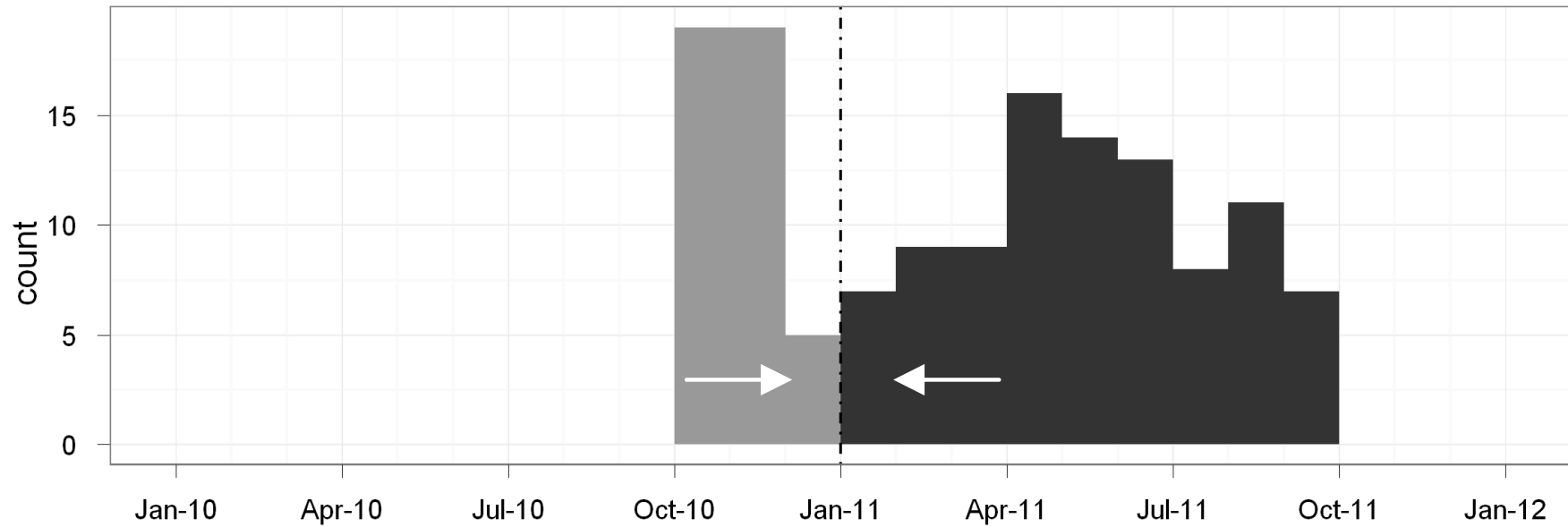
Time Adjustment
Regions

Time Adjustment
Calculation

Time Adjustment
Application

Appeal Procedures

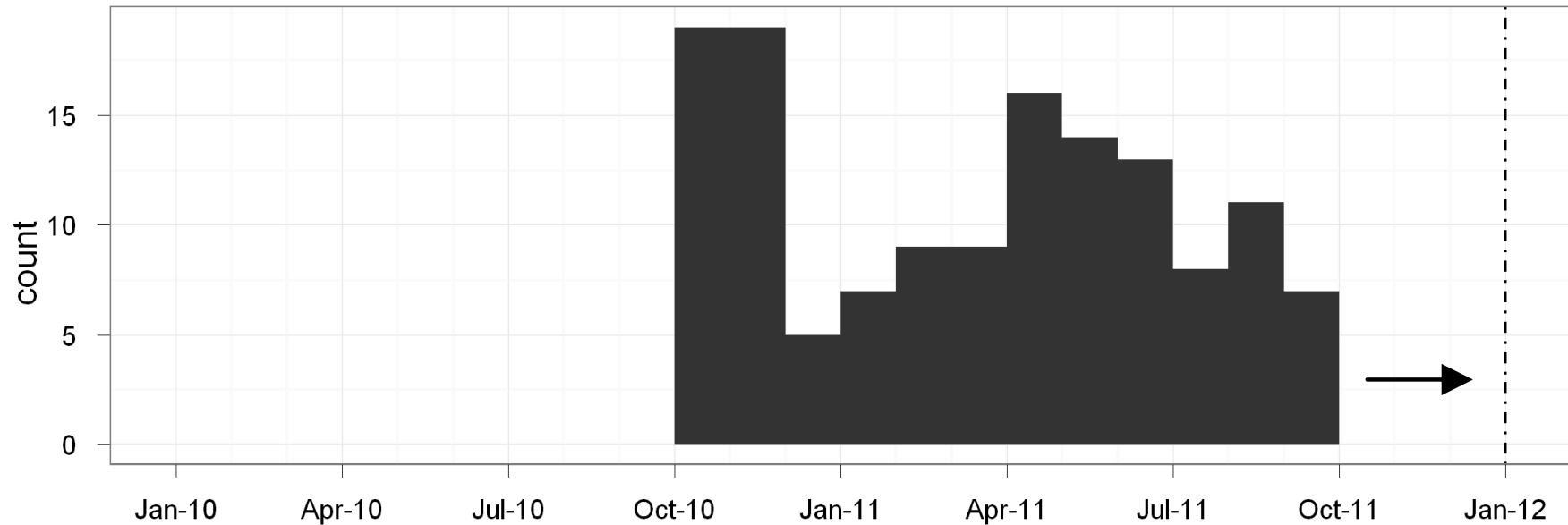
Sales Ratio Studies



Tax Court

- 9 or 12 month study period
- 2011 EMVs
- Most sales occur after assessment

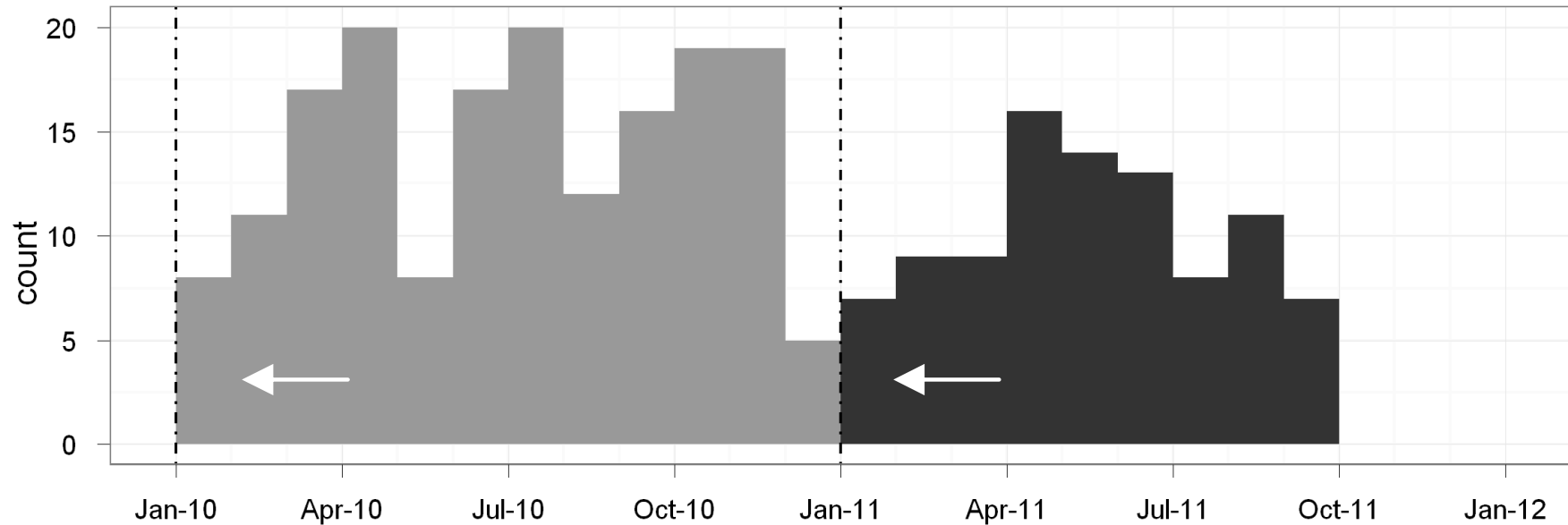
Sales Ratio Studies



Equalization

- Entire 12 month study period
- 2012 EMVs
- All sales occur before assessment

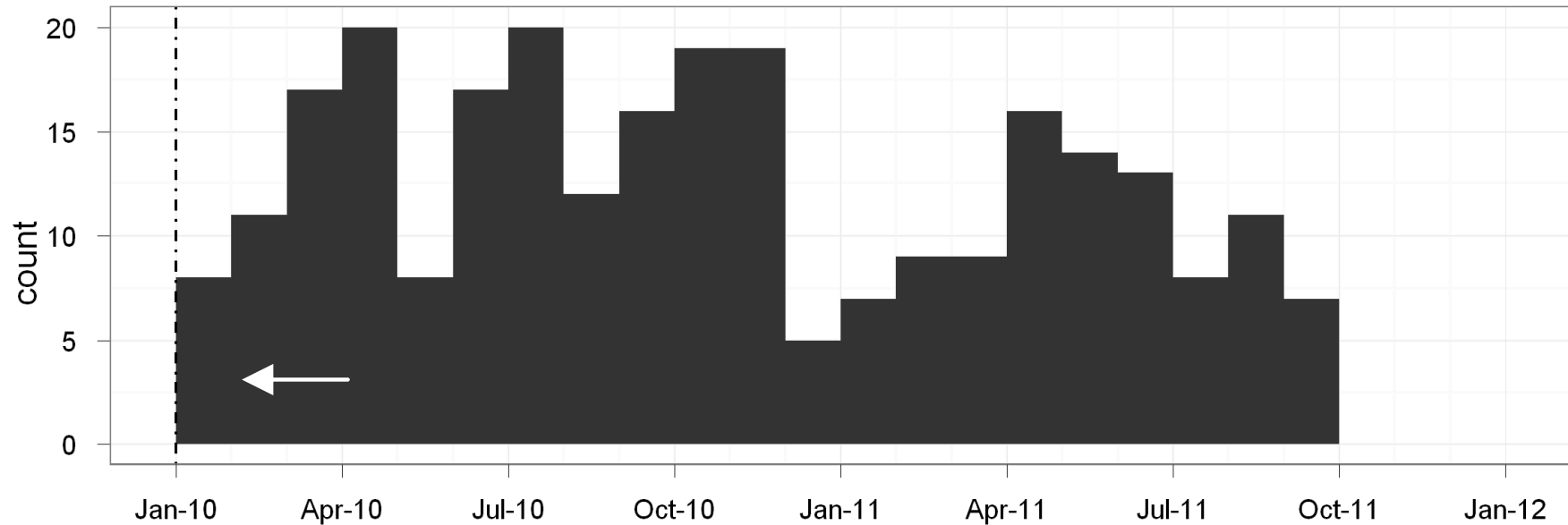
Sales Ratio Studies



ANTCs

- Extended 21 month study period
- 2010 & 2011 EMVs
- Includes final 9 months of previous study

Sales Ratio Studies



Time Adjustment

- Calculated using 21 month study period
- 2010 EMVs
- Same adjustment factor calculation for all studies

Sales Ratio Studies

Why Time Adjustments?

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Why Time Adjustments?

- MS2010 Sec 278.05, subd 4
- More Accurate Ratios

Sales Ratio Studies

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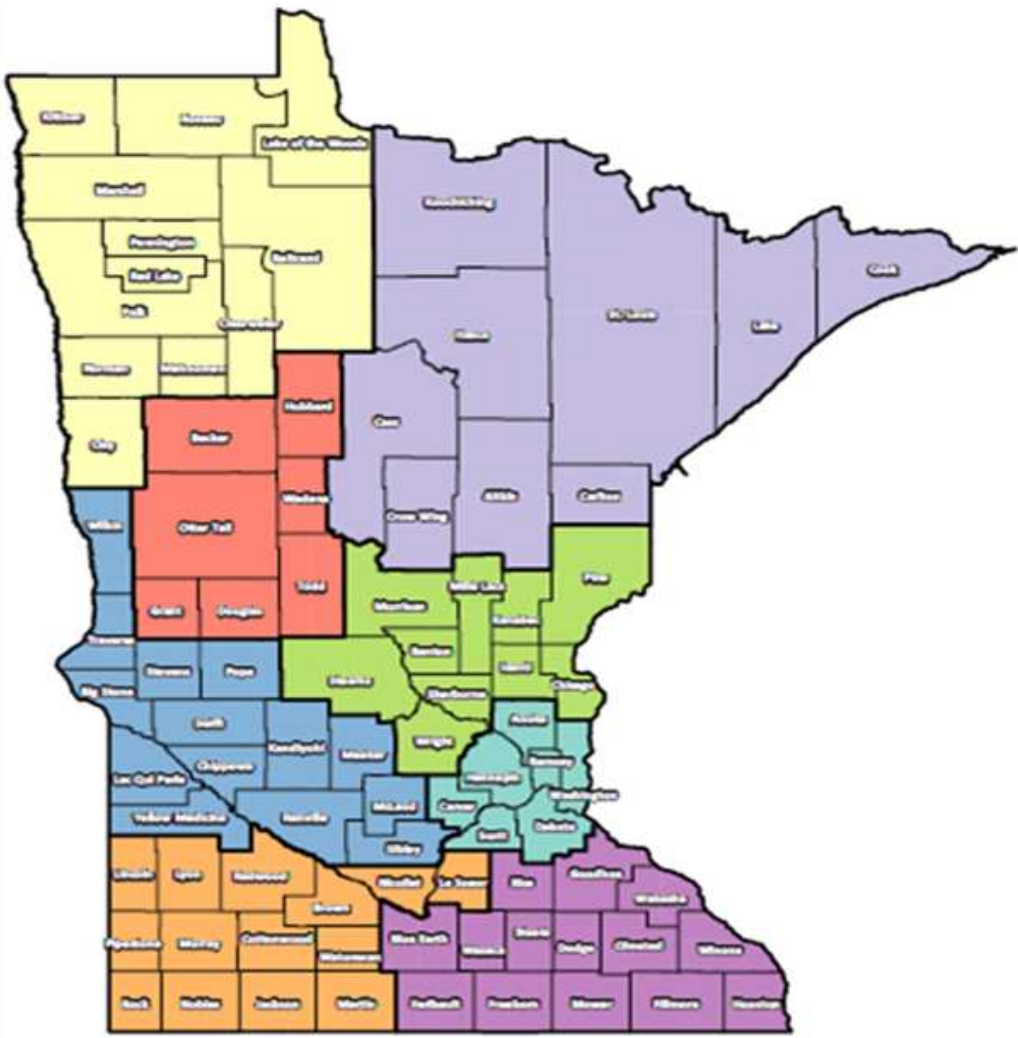
Appeal Procedures

Define Adjustment Regions

- Before October 2013



Time Adjustment Regions



December 12, 2000 | Minnesota Department of Business

Define Adjustment Regions

- Before October 2010



Time Adjustment Regions

- Collaboration between Regional Reps and Assessors
- Attempted to align market areas
- Multi county groupings primarily based on ag markets
- Residential markets at county or sub-county level
- Region definitions can continue to change as property markets change

Define Adjustment Regions

- Before October 2010



Sales Ratio Studies

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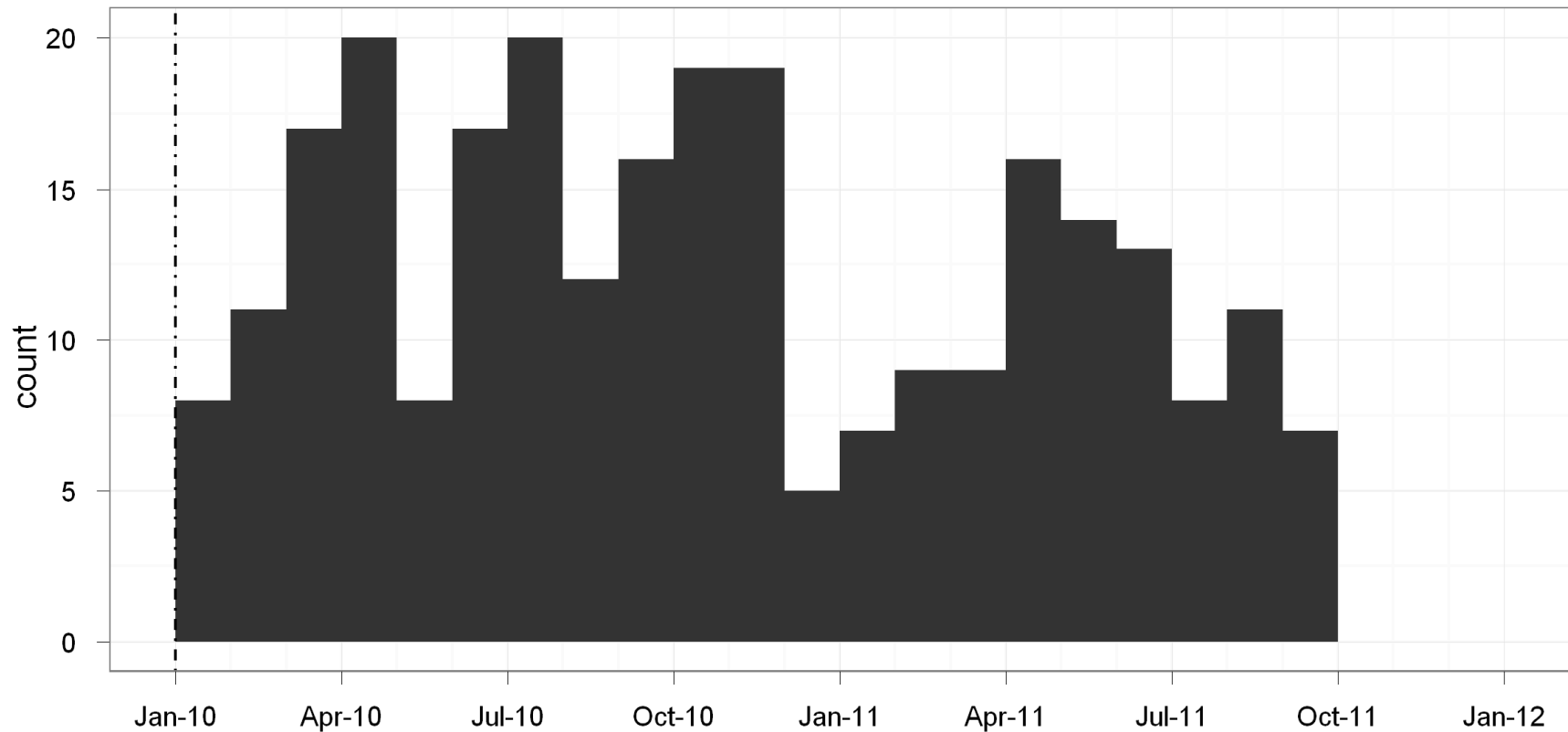
Define Adjustment Regions

• Before October 2010

Counties Submit Sales

• October 2010

Time Adjustment Calculation



The sales sample is merged with the 2010 assessment values.

Define Adjustment Regions

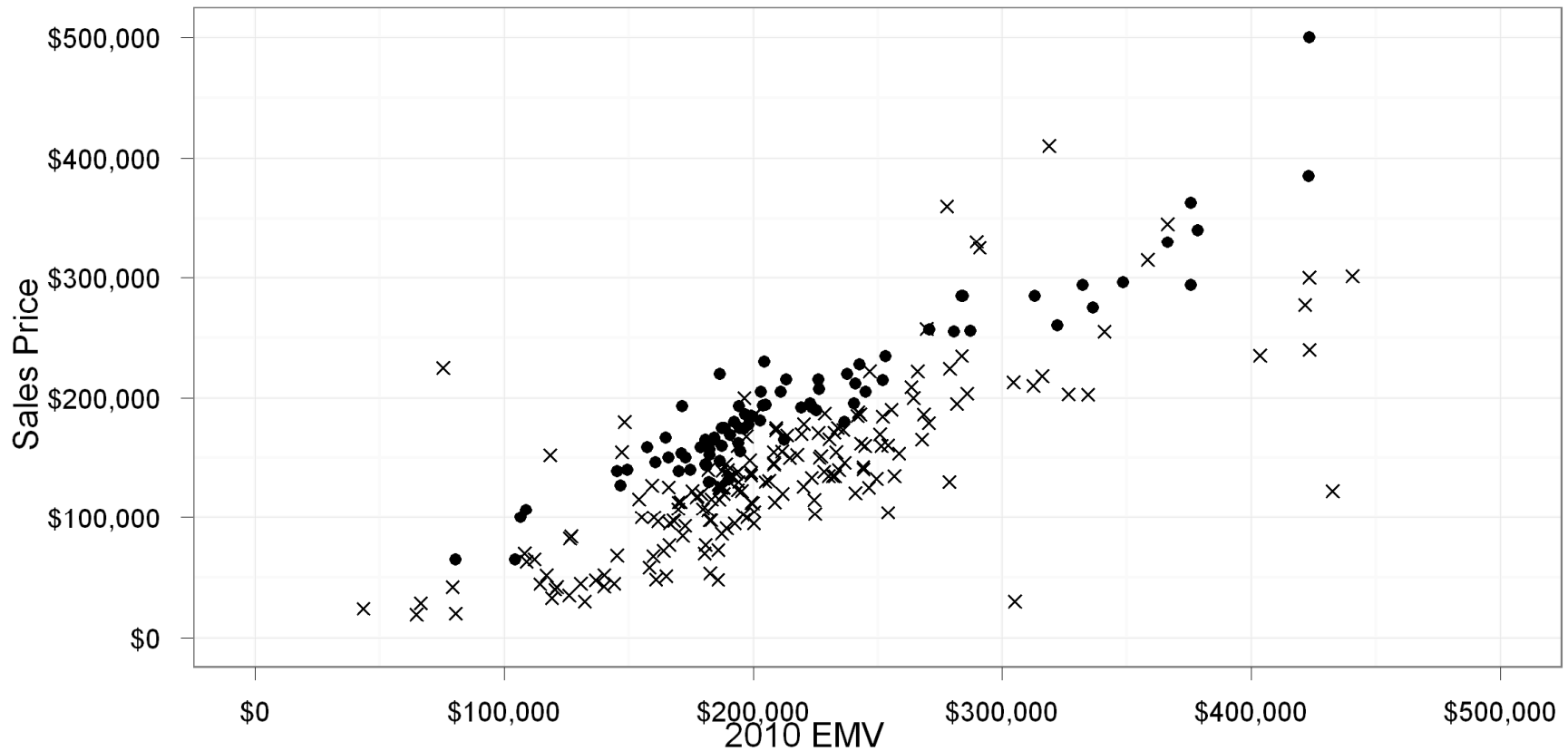
• Before October 2010



Counties Submit Sales

• October 2010

Time Adjustment Calculation



Only "good" arms-length transactions are used to calculate the time adjustment. Other sales are removed from the sample.

Define Adjustment Regions

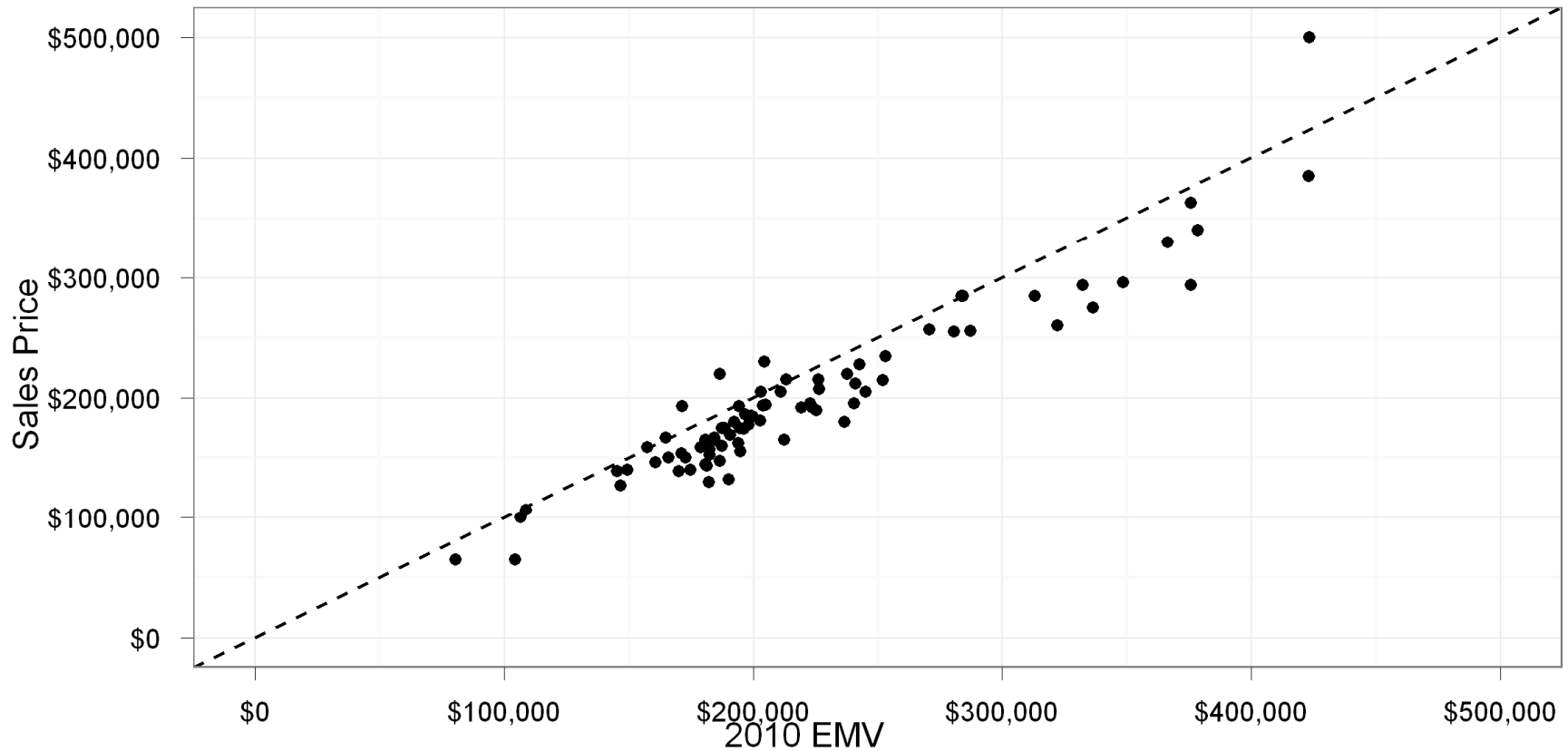
• Before December 31, 2010



Counties Submit Sales

• October 2011

Time Adjustment Calculation



Sales that lie on the dotted line have a ratio of 100. Are the majority of these unadjusted ratios above or below 100?

Define Adjustment Regions

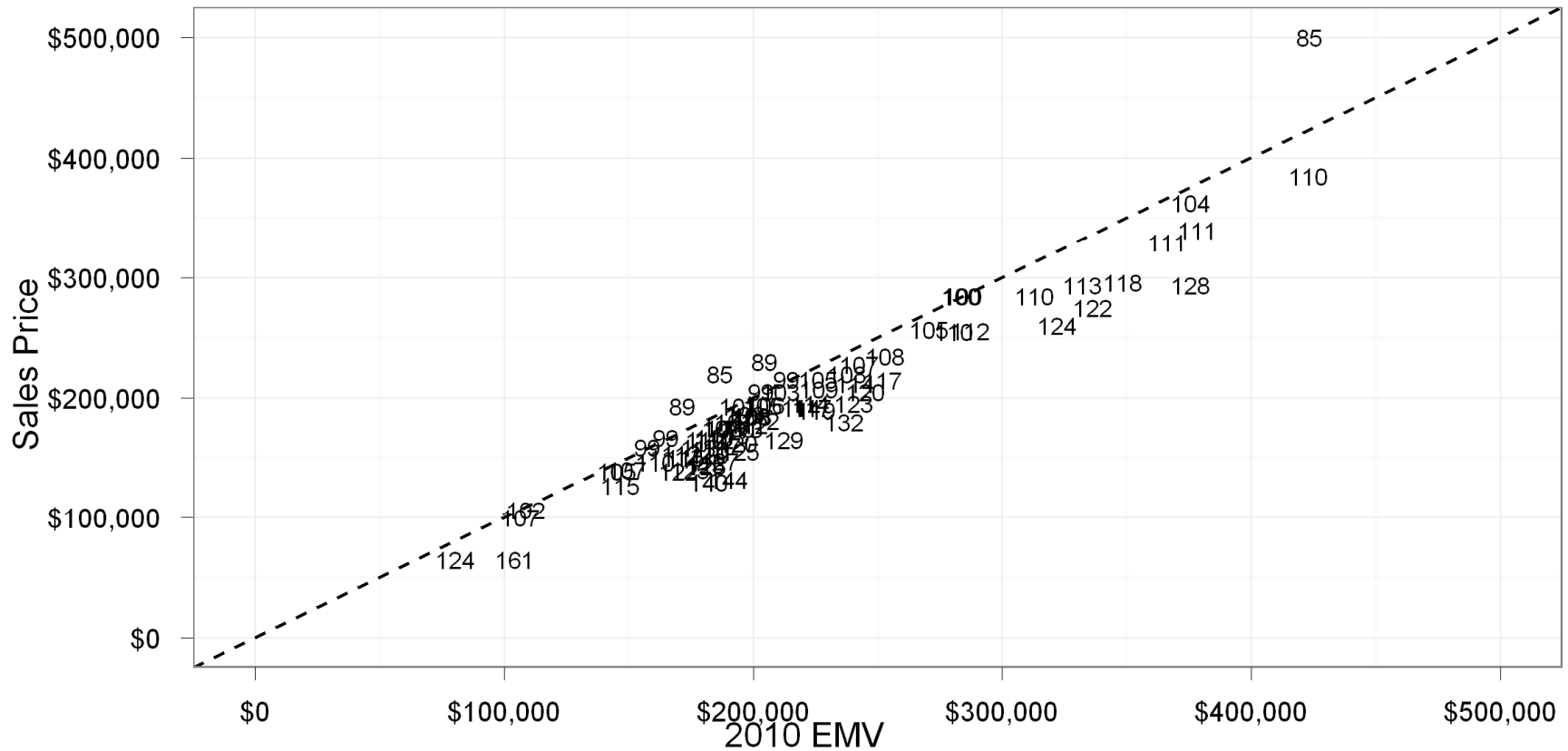
• Before October 2010



Counties Submit Sales

• October 2010

Time Adjustment Calculation



$$\text{Sales Ratio} = \frac{\text{2010 EMV}}{\text{Sales Price}}$$

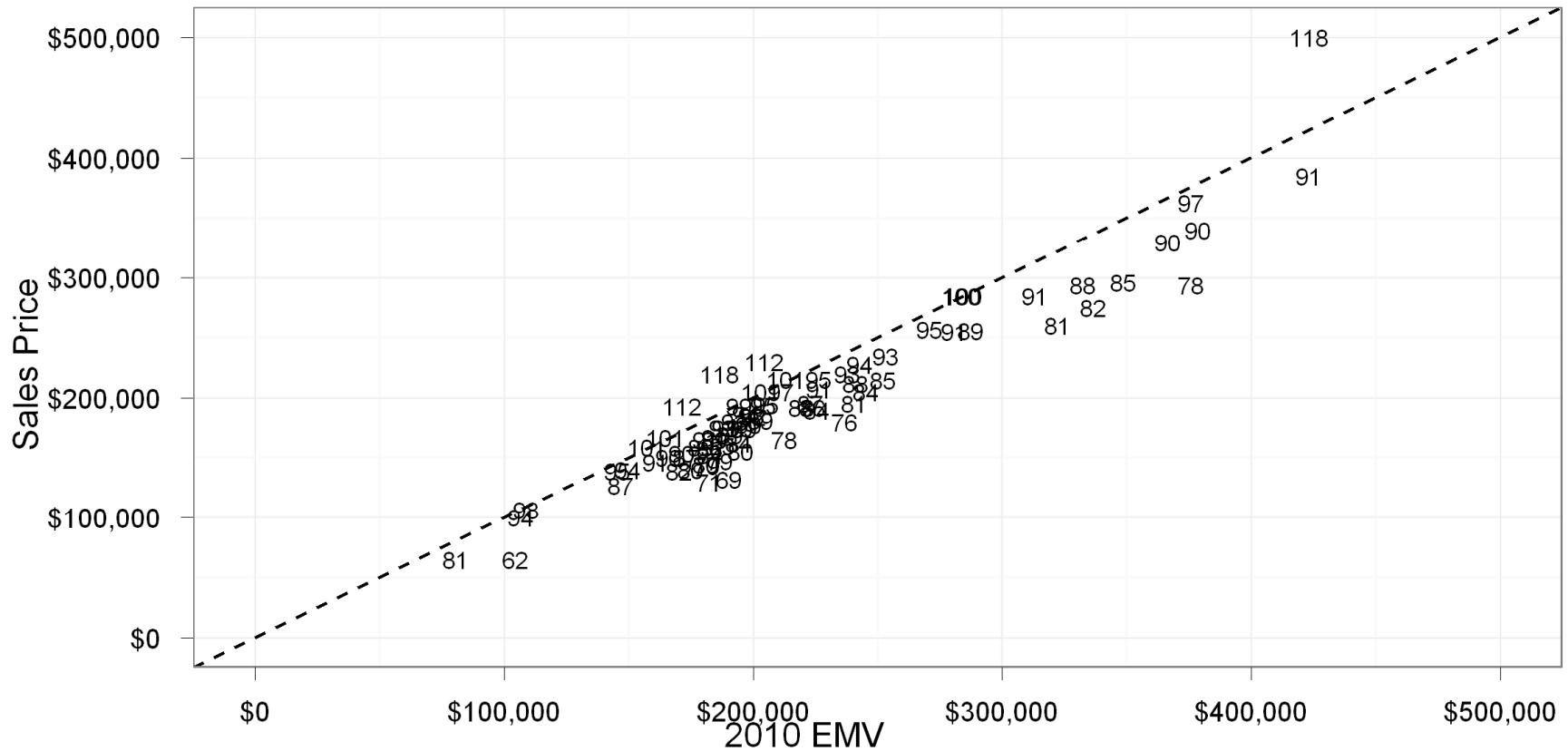
Define Adjustment Regions

- Before October 2010

Counties Submit Sales

- October 2010

Time Adjustment Calculation



$$\text{Inverted Sales Ratio} = \frac{\text{Sales Price}}{2010 \text{ EMV}}$$

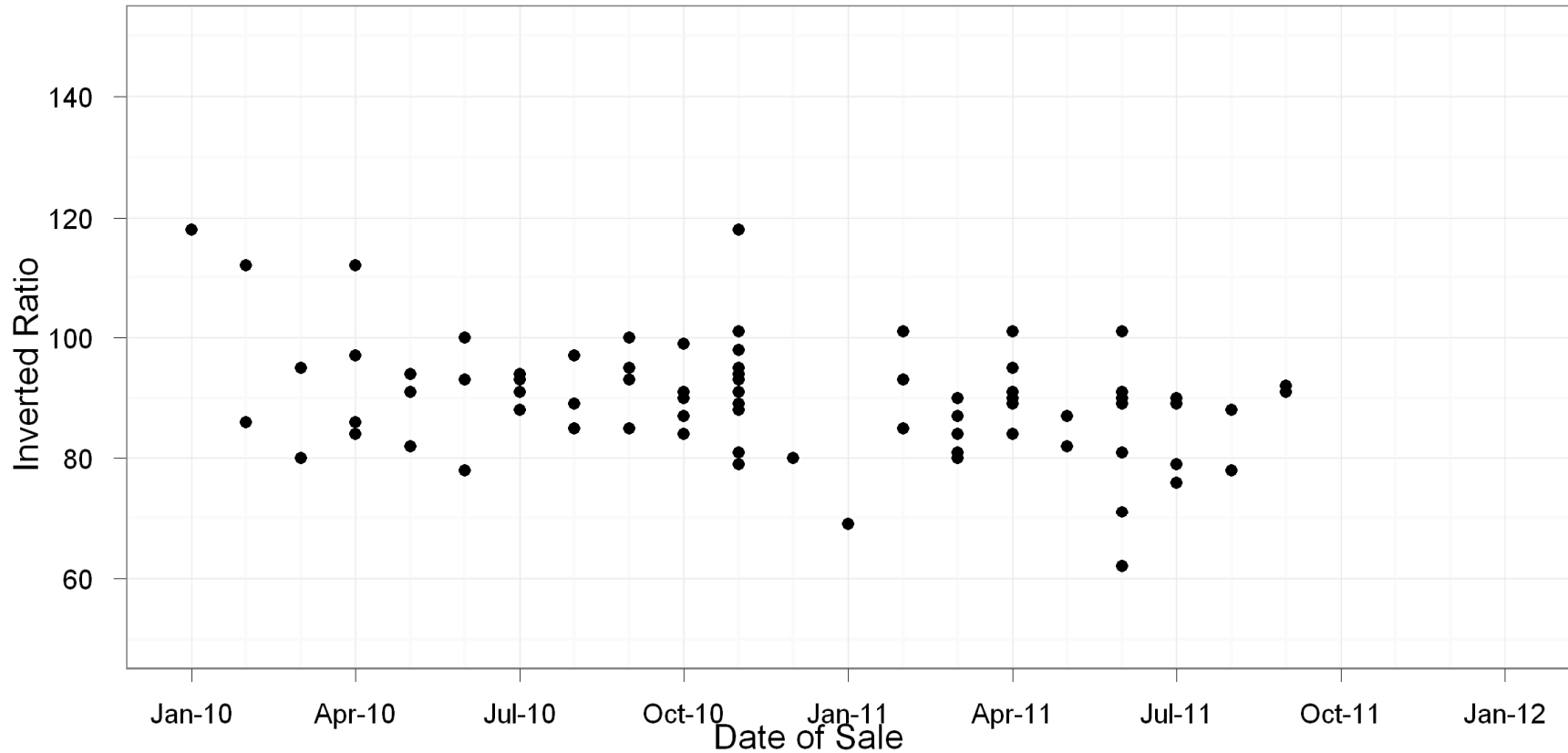
Define Adjustment Regions

- Before October 2010

Counties Submit Sales

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Time Adjustment Calculation



- Intercept: ???
- Slope: ???
- Significance: ???

When we plot the inverted ratio by the date of sale a visual trend may emerge.

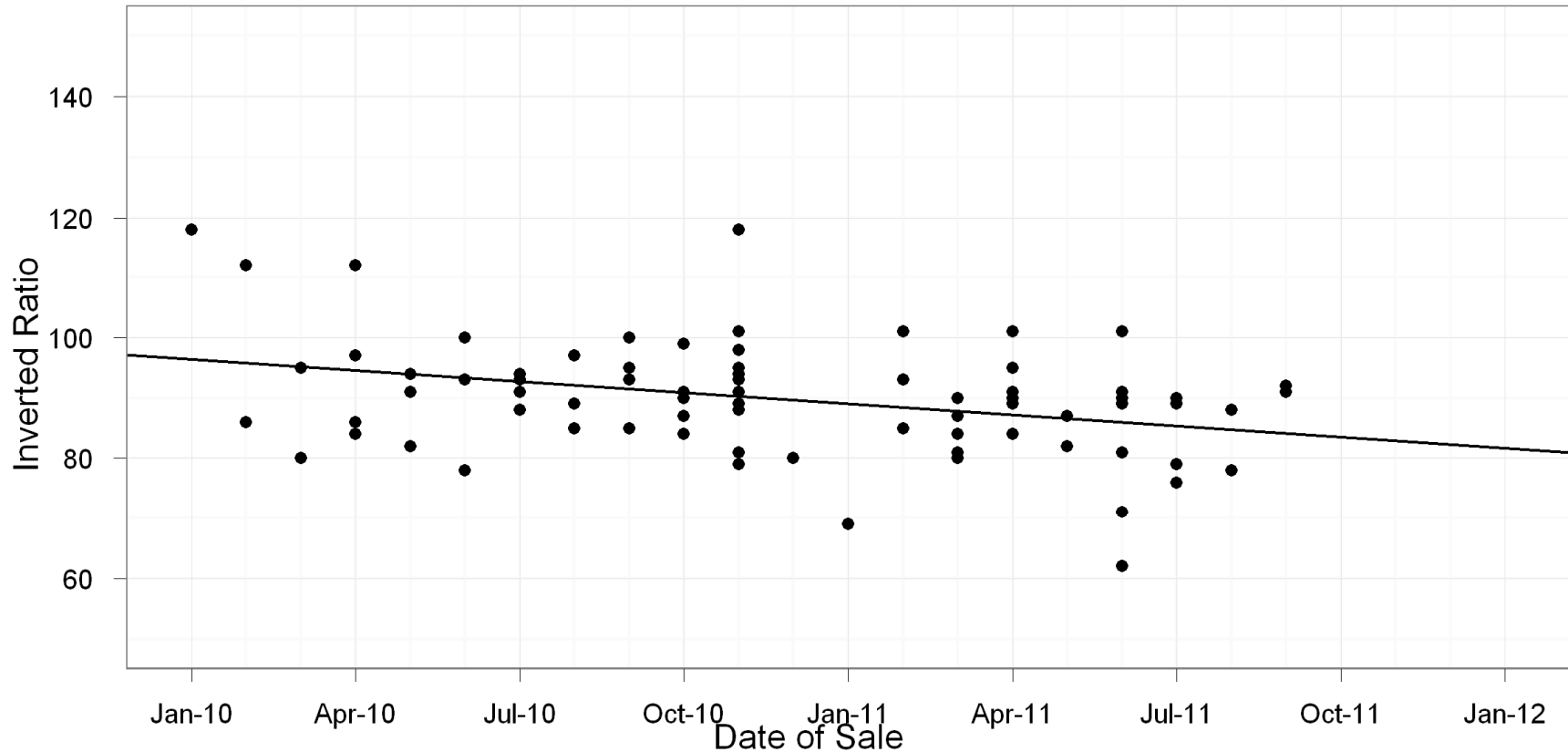
Define Adjustment Regions

• Before October 2010

Counties Submit Sales

• October 2010

Time Adjustment Calculation



- Intercept: 96.46
- Slope: -0.62
- Significance: 99.8%

Define Adjustment Regions

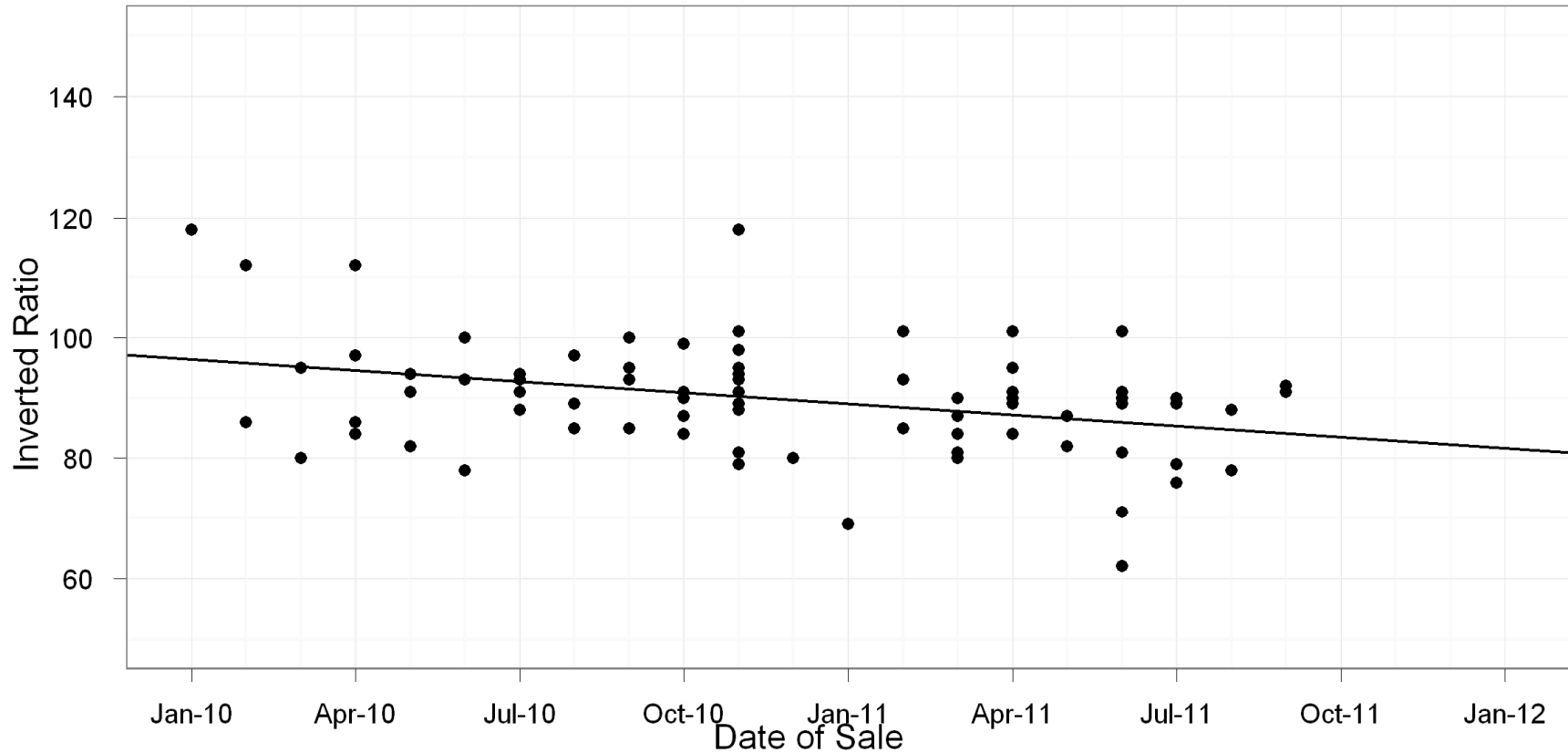
- Before October 2010

By fitting a line to the data we calculate the parameters necessary to both determine if a statistically significant time trend exists and calculate the most probable time adjustment.

Counties Submit Sales

- October 2010

Time Adjustment Calculation



- Intercept: 96.46
- Slope: -0.62
- Significance: 99.8%

$$\text{Monthly}\% \Delta = \frac{\text{Slope}}{\text{Intercept}} = -0.6\%$$

Define Adjustment Regions

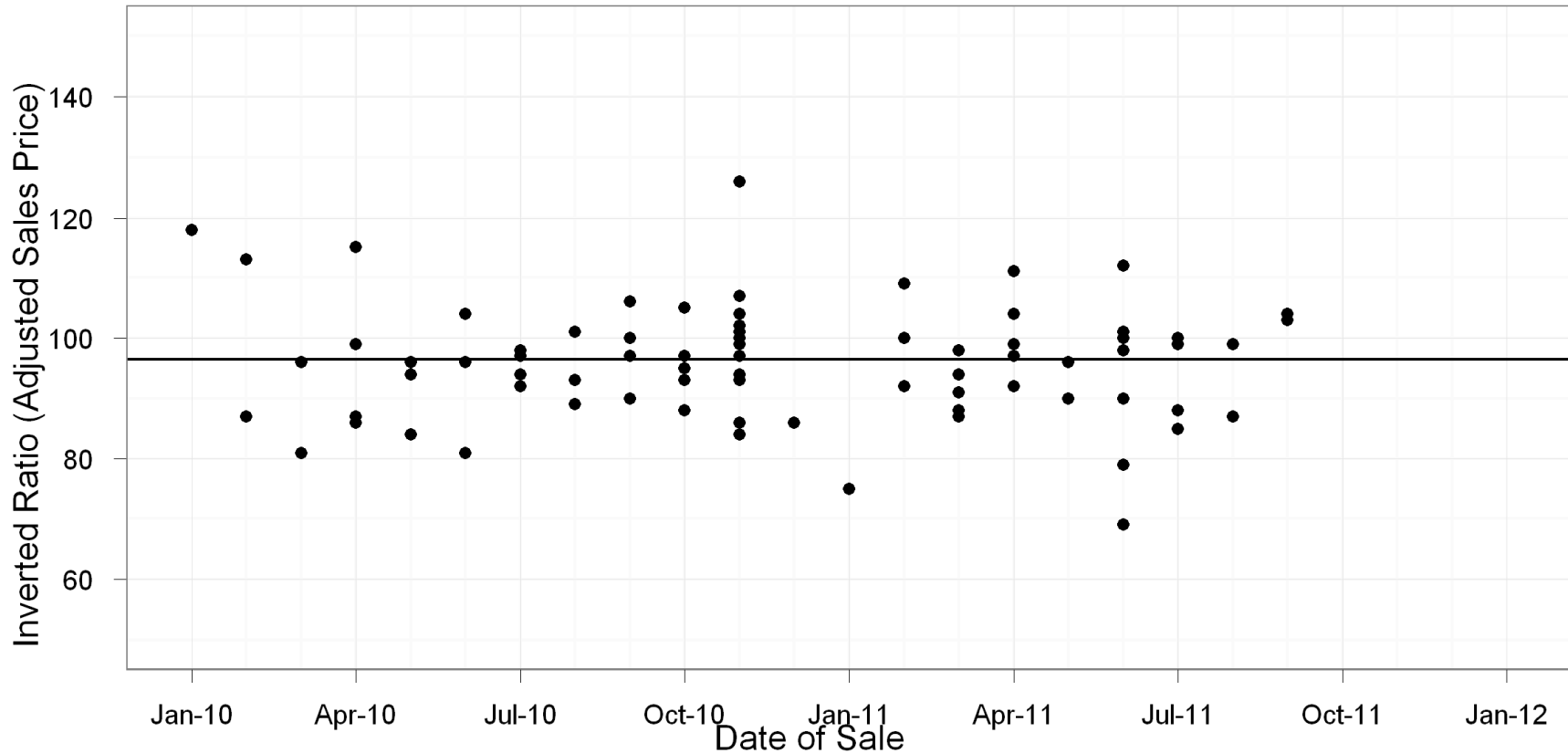
• Before October 2010



Counties Submit Sales

• October 2010

Time Adjustment Calculation



- Intercept: 96.46
- Slope: -0.62
- Significance: 99.8%

Define Adjustment Regions

• Before October 2010

If the result is deemed statistically significant (confidence level > 90%) a time adjustment is applied to the corresponding sales. Otherwise sales prices are not adjusted for time.



Counties Submit Sales

• October 2010

Sales Ratio Studies

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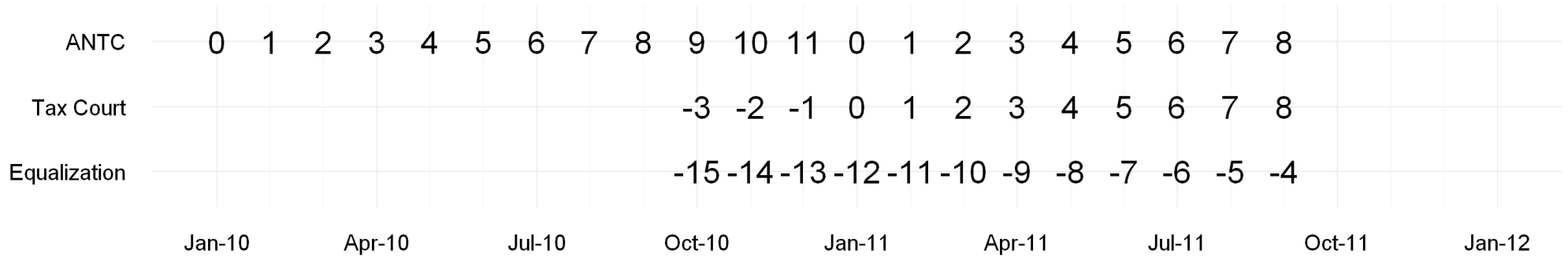
• Before October 2010

Counties Submit Sales

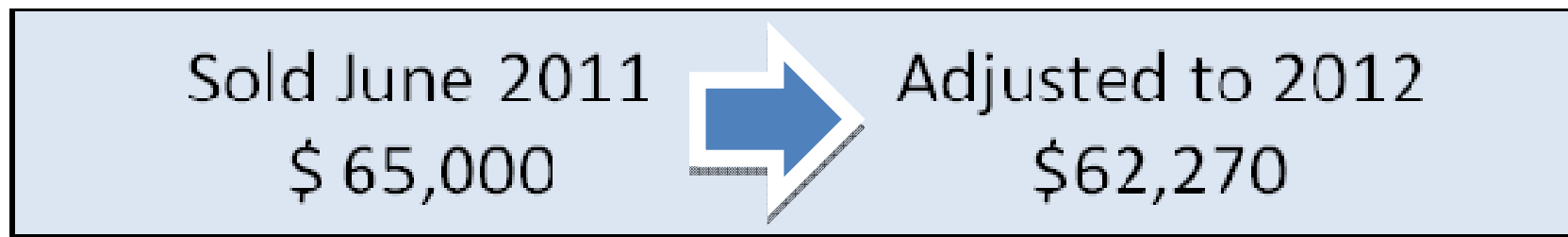
• October 2010

Time Adjustment Application

Equalization Study



$$\text{Adjusted Sales Price} = \text{Sales Price} \times (1 - (-0.006 \times \text{Study Month}))$$



Define Adjustment Regions

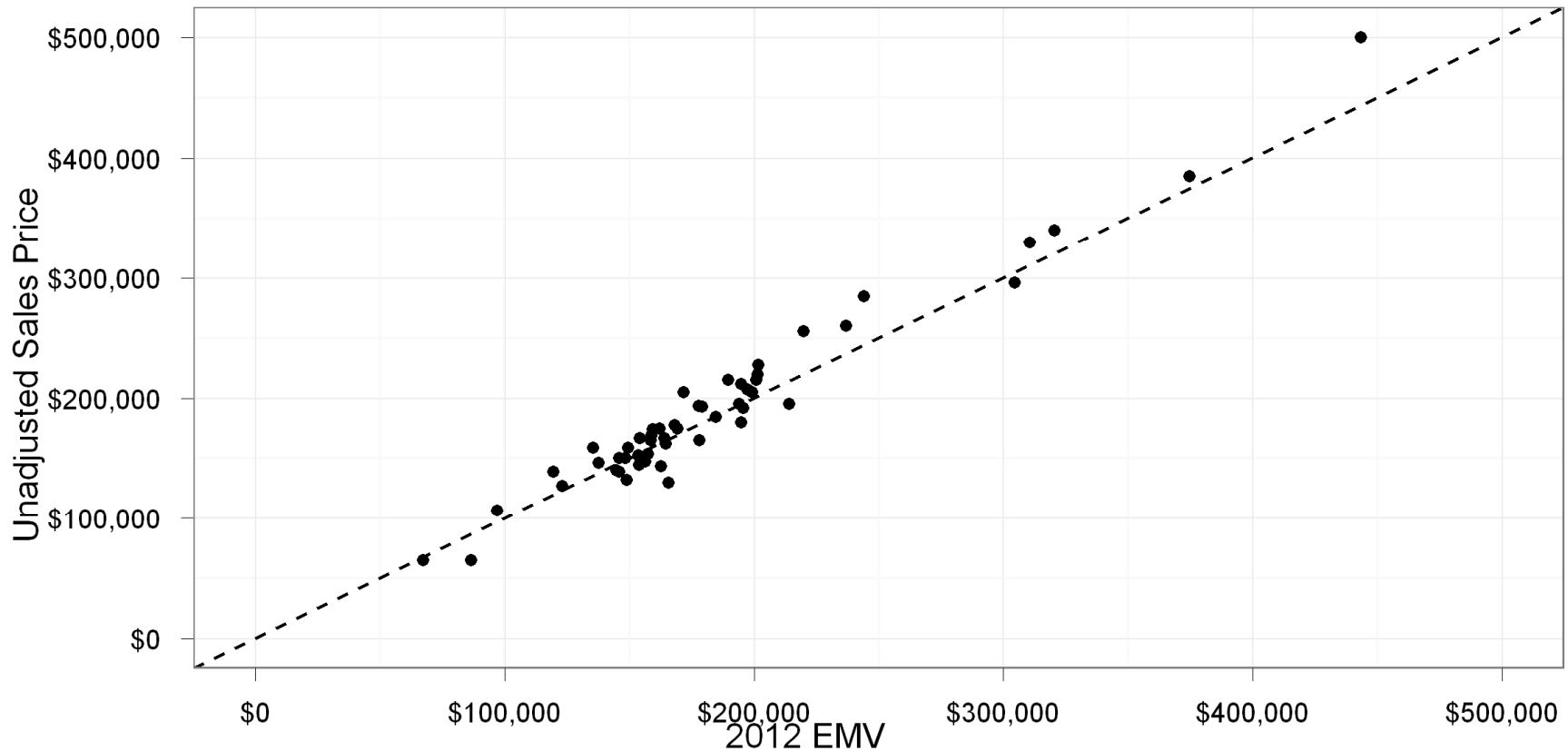
- Before October 2010

Counties Receive Adjusted Sales Prices

- December 2011

Counties Submit Sales

- October 2010



The sales ratios are relatively low prior to adjustment (points above the dotted line are under-assessed).

Define Adjustment Regions

- Before October 2012

Counties Receive Adjusted Sales Prices

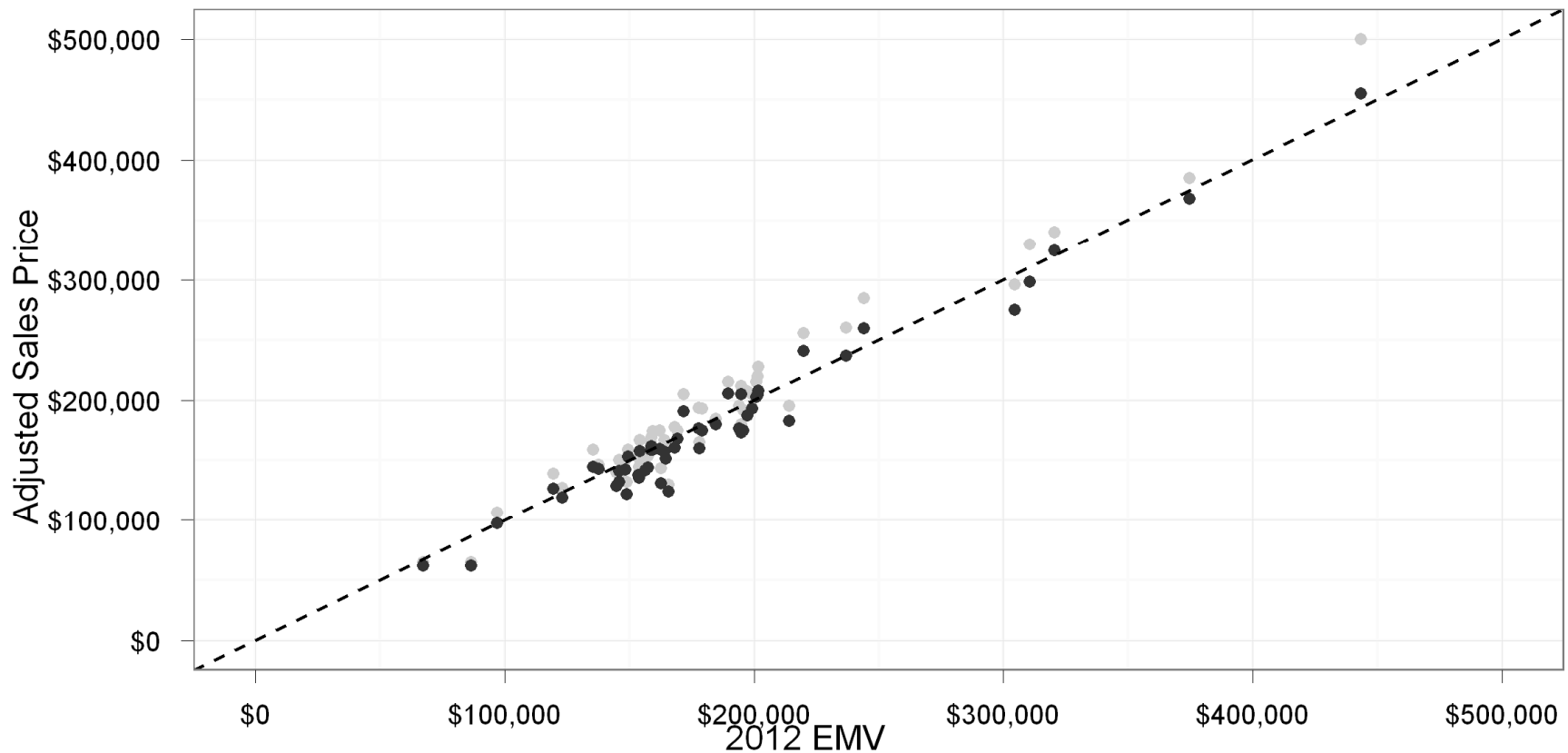
- December 2012

Counties Submit Sales

- October 2012

Counties Submit Preliminary 2012 E.I.'s

- March 2012



Here the time adjustment increases the sales ratios while reducing their variance. The ratio increase occurs because we've removed the deflationary trend.

Define Adjustment Regions

- Before October 2012

Counties Receive Adjusted Sales Prices

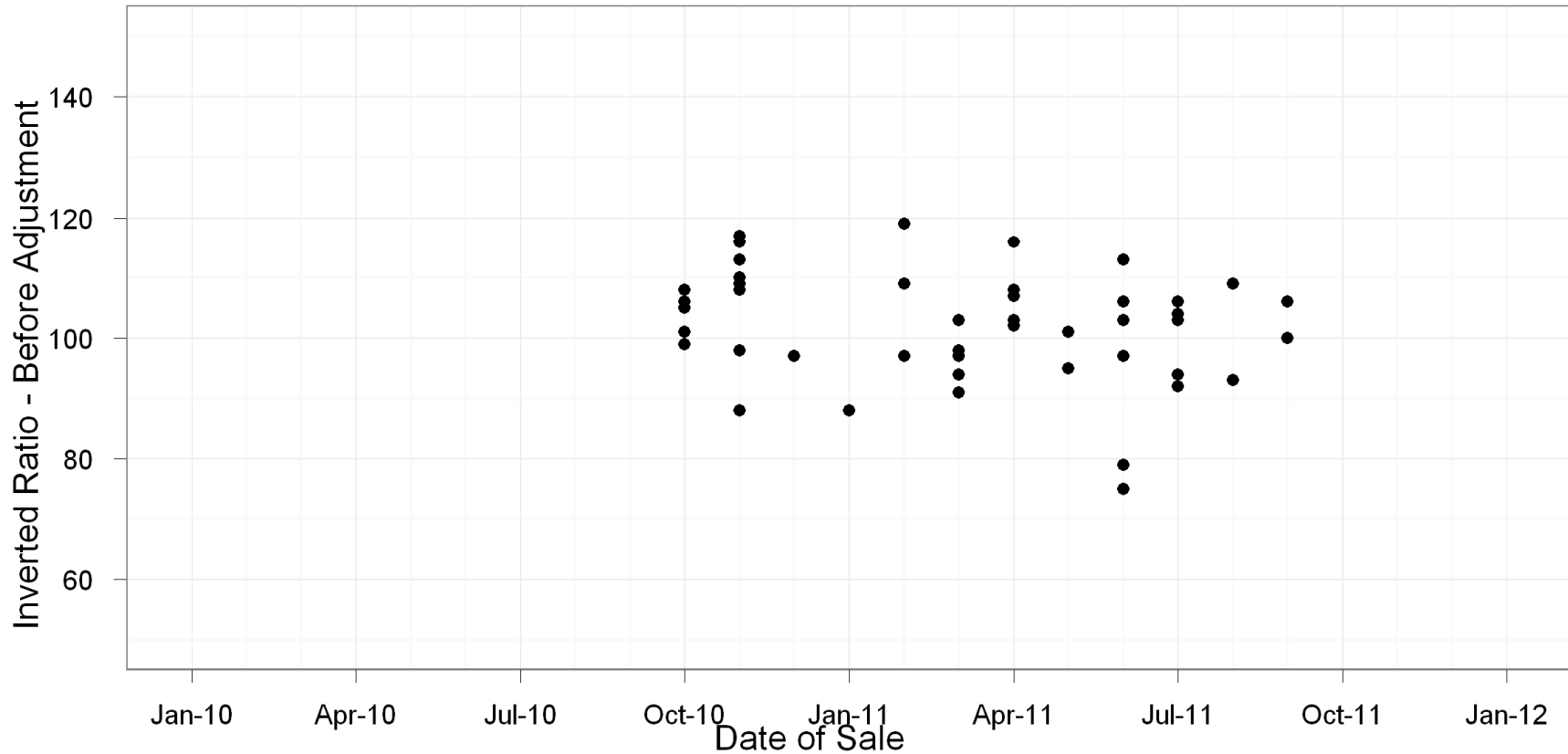
- December 2012

Counties Submit Sales

- October 2012

Counties Submit Preliminary 2012 EIS

- March 2012



Plotting the sales by date better illustrates the removal of the time trend.

Define Adjustment Regions

• Before October 2010

Counties Receive Adjusted Sales Prices

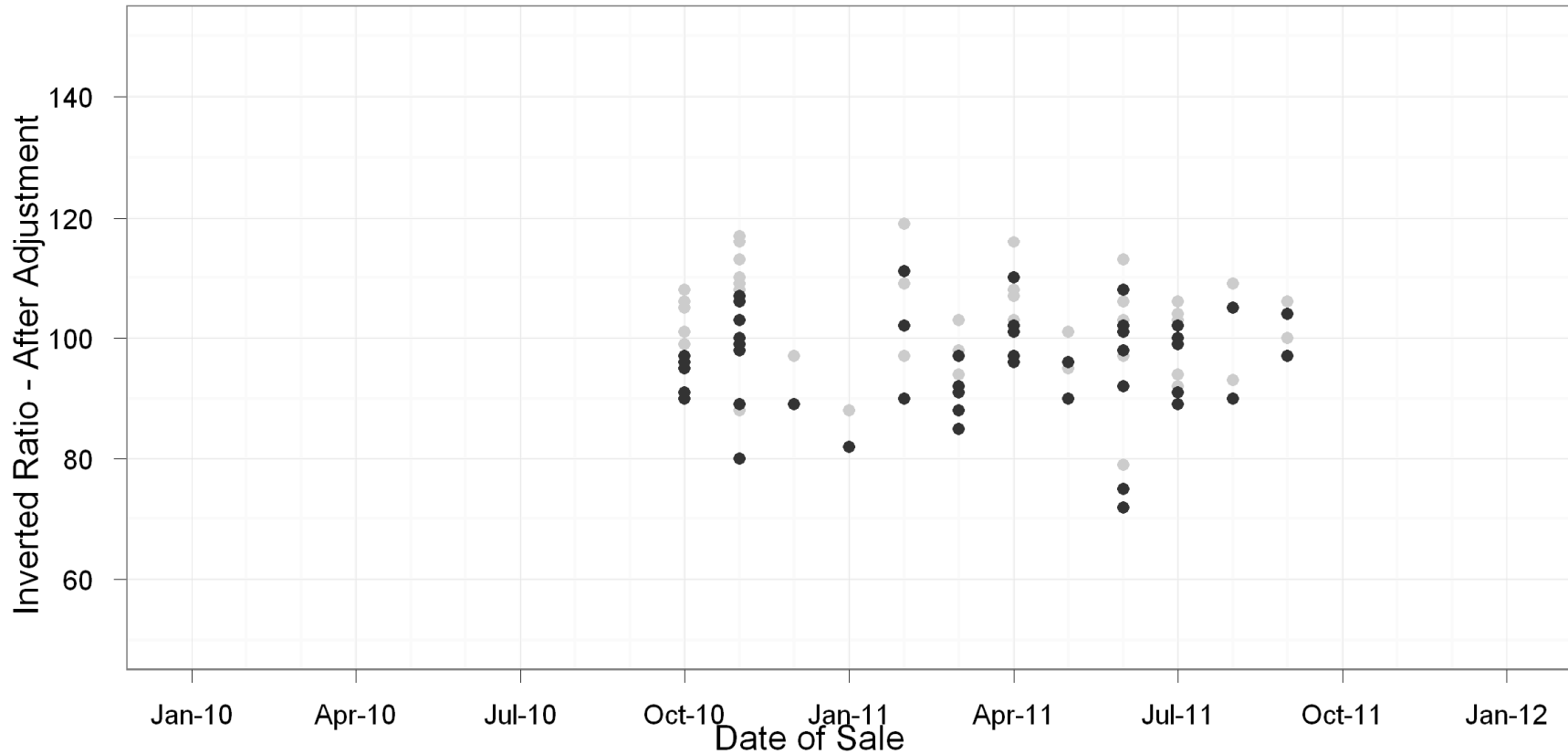
• December 2010

Counties Submit Sales

• October 2011

Counties Submit Preliminary 2012 EIS's

• March 2012



Plotting the sales by date better illustrates the removal of the time trend.

Define Adjustment Regions

• Before October 2010

Counties Receive Adjusted Sales Prices

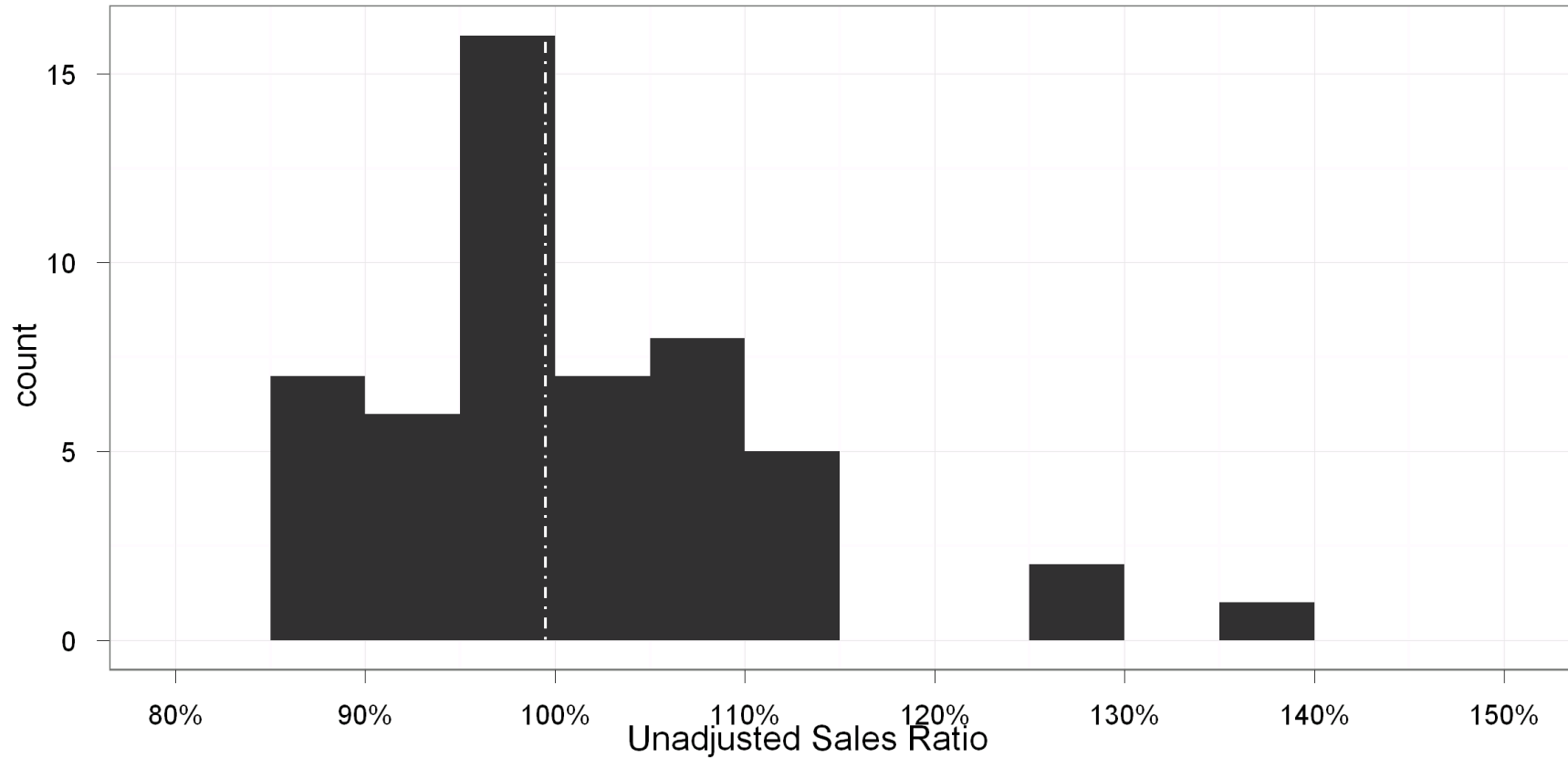
• December 2010

Counties Submit Sales

• October 2011

Counties Submit Preliminary 2012 EIS's

• March 2012



Median: 99.5
COD: 7.18

Counties Receive Adjusted
Sales Prices

State Board of Equalization

Define Adjustment Regions

Counties Submit Sales

Counties Submit
Preliminary 2012 EIT-9's

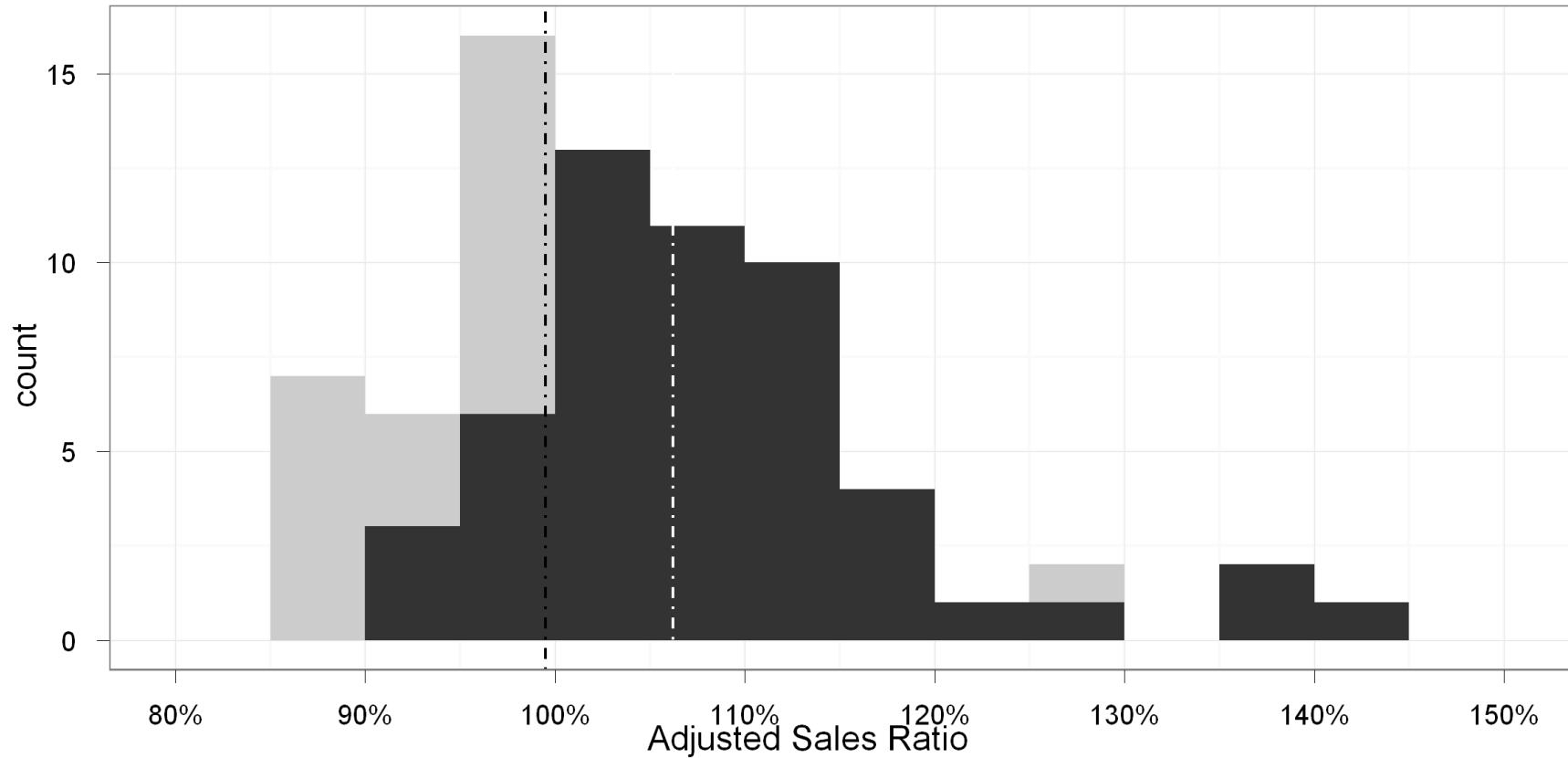
• October 2011

• June 2012

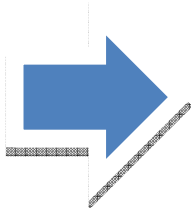
• Before October 2010

• October 2011

• March 2012



Median: 99.5
COD: 7.18



Median: 106.2
COD: 7.10

Define Adjustment Regions

• Before October 2010

Counties Receive Adjusted Sales Prices

• December 2010

State Board of Equalization

• June 2012

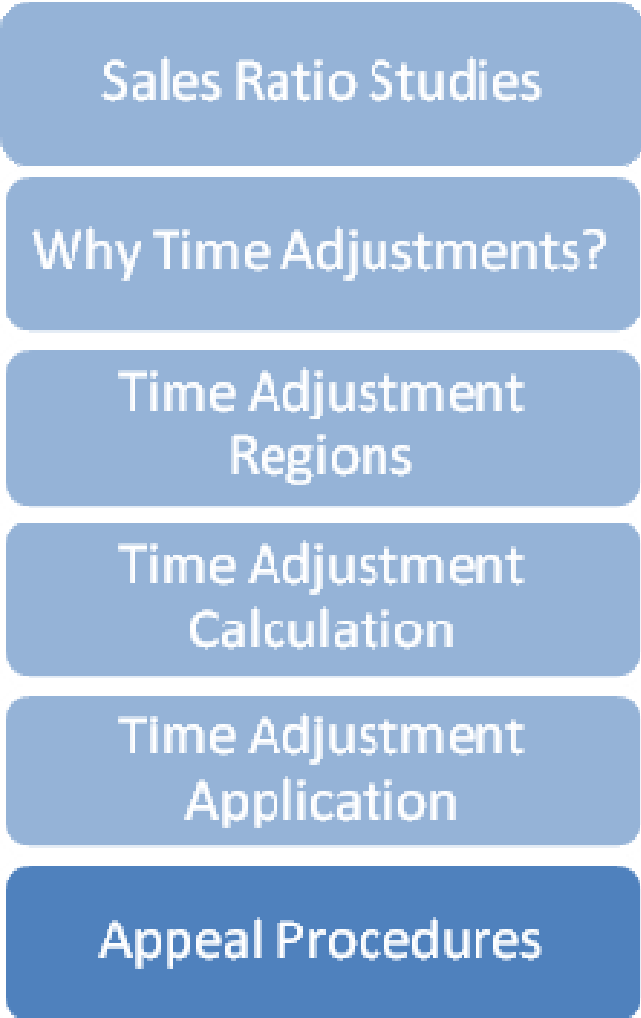
Counties Submit Sales

• October 2010

Counties Submit Preliminary 2012 ETL's

• March 2012





Define Adjustment Regions

• Before October 2012

Counties Receive Adjusted Sales Prices

• December 2012

Counties Submit Preliminary ETRs

• February 2013

Counties Submit Sales

• October 2012

Time Adjustment Appeals

• Before March 2013

State Board of Equalization

• June 2013



Appeal Procedures

- Time adjustments can be inaccurate.
- Factors that can lead to inaccurate adjustments include:
 - Non-representative sales sample
 - Poorly defined market

Define Adjustment
Regions

• Before October 2012

Counties Receive
Adjusted Sales Prices

• December 2012

Counties Submit
Preliminary 2012
EITFs

• 1 March 2013

Counties Submit Sales

• October 2012

Time Adjustment
Appeals

• Before 1 March 2013

State Board of
Equalization

• June 2013

Appeal Procedures

- Start by notifying your regional representative of your concerns.
- Identify the specific area and property type.
- Provide supporting documentation.
- More detail on the appeals procedure can be found in the sales ratio criteria documentation.

Define Adjustment Regions

• Before October 2012

Counties Receive Adjusted Sales Prices

• December 2012

Counties Submit Preliminary ETRs

• Before 2012

Counties Submit Sales

• October 2012

File Adjustment Appeals

• Before March 2012

State Board of Equalization

• June 2012

Appeal Procedures

If the appeal results in a time adjustment, the adjustment factors will be applied to the appropriate sales ratio study uses.

Define Adjustment Regions

• Before October 2012

Counties Receive Adjusted Sales Prices

• December 2012

Counties Submit Preliminary ETRs

• 1 March 2013

Counties Submit Sales

• October 2012

Time Adjustment Appeals

• Before 1 March 2013

State Board of Equalization

• June 2013

Questions?

Define Adjustment Regions

• Before October 2012

Counties Submit Sales

• October 2012

Counties Receive Adjusted Sales Prices

• December 2012

File Adjustment Appeals

• Before March 2013

Counties Submit Preliminary EITFs

• March 2013

State Board of Equalization

• June 2013

Review

- Time adjustments make ratios better represent actual market conditions
- Department uses tracking sales ratios over time method
 - Regression analysis with 90% confidence level
- Appeal process available for questionable adjustments
 - Process starts by talking to Regional Rep

Define Adjustment Regions

• Before October 2012

Counties Receive Adjusted Sales Prices

• December 2012

Counties Submit Preliminary ETRs

• Before 2013

Counties Submit Sales

• October 2012

Time Adjustment Appeals

• Before March 2013

State Board of Equalization

• June 2013