

# Supplemental Poverty Measure: A Comparison of Geographic Adjustments with Regional Price Parities vs. Median Rents from the American Community Survey

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# Median Rent Index

$$\text{Threshold}_{ijt} = [(\text{HousingShare}_t \times \text{MRI}_{ij}) + (1 - \text{HousingShare}_t)] \times \text{Threshold}_t$$

*i* = state

*j* = specific metro area, other metro or nonmetro area

*t* = tenure: owner with mortgage, owner without a mortgage, renter

**HousingShare** = percent of threshold represented by housing and utilities which ranges from 40 to 50 percent of total expenditures, depending on tenure status

**MRI** = Median Rent Index

**Threshold** = national average dollar value for income below which consumer units are considered in poverty

## Silicon Valley vs Rural Alabama

2015– Two Adults Two Children - Renter	San Jose- Sunnyvale- Santa Clara, CA	Alabama – outside metro area
<b>Official Poverty Threshold</b>	<b>\$24,036</b>	<b>\$24,036</b>
<b>SPM Threshold: Renters (national average)</b>	<b>\$25,583</b>	<b>\$25,583</b>

## Silicon Valley vs Rural Alabama

2015– Two Adults Two Children - Renter	San Jose- Sunnyvale- Santa Clara, CA	Alabama – outside metro area
Official Poverty Threshold	\$24,036	\$24,036
SPM Threshold: Renters	\$25,583	\$25,583
<b>Median Rent - National</b>	<b>\$905</b>	<b>\$905</b>
<b>Rent-based Index Using MRI</b>	<b>\$1,638/\$905 =1.81</b>	<b>\$552/\$905=0.61</b>
<b>Apply to Only Housing Portion of Thresholds</b>	<b>49.8%*1.81+50.2%*1.0</b>	<b>49.8%*.61+50.2%*1.0</b>
<b>MRI Adjustment</b>	<b>1.40</b>	<b>.80</b>

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Rent-based Index Using MRI	$\$1,638/\$905 = 1.81$	$\$552/\$905 = 0.61$
Apply to Only Housing Portion of Thresholds	$49.8\% * 1.81 + 50.2\% * 1.0$	$49.8\% * .61 + 50.2\% * 1.0$
MRI Adjustment	1.40	.80
<b>Adjusted SPM Threshold</b>	<b>\$35,944</b>	<b>\$20,585</b>

# Regional Price Parities (RPPs)

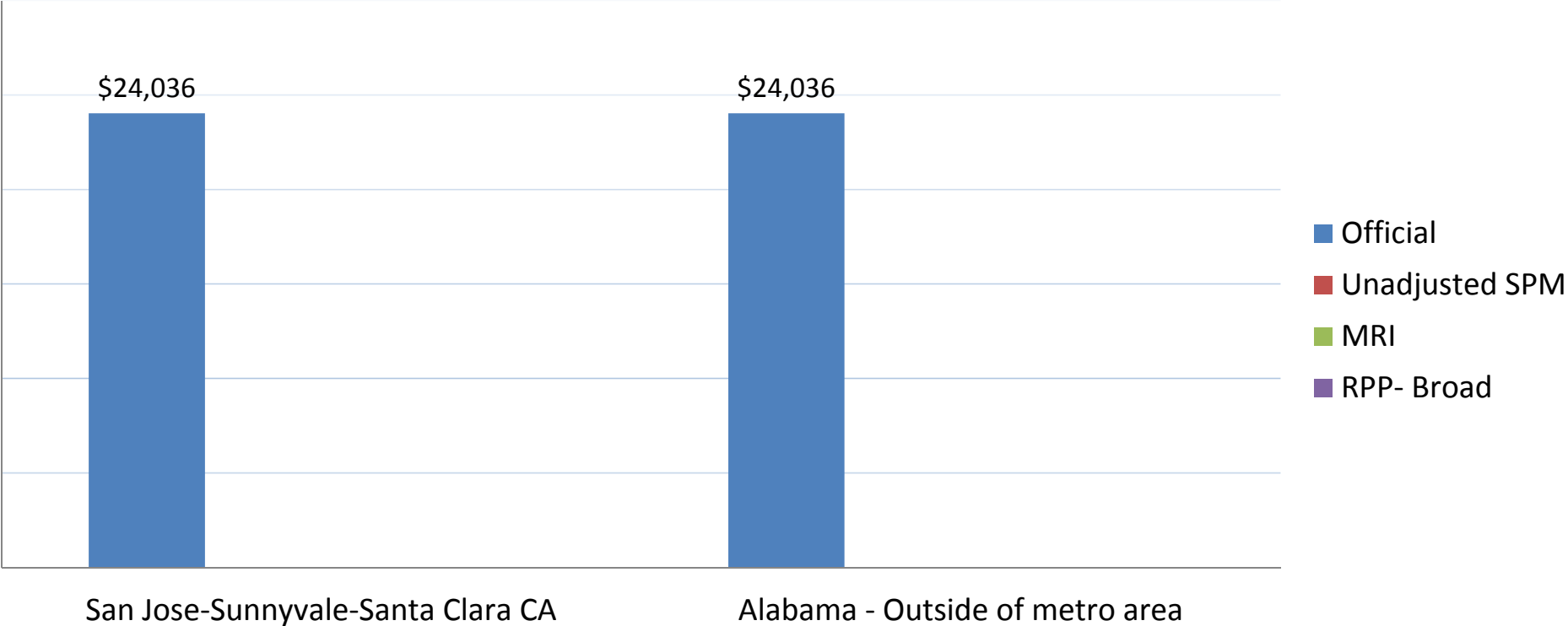
- Spatial price indexes produced by the Bureau of Economic Analysis to measure price level differences across regions
- Stage One – price and expenditures inputs collected by the BLS CPI program and the CE – 38 urban areas (weights available for 38 urban areas plus 4 rural regions)
- Stage Two – combined with data from the ACS on housing costs to calculate index values for all metro areas
- Index values applied to the entire threshold

## Silicon Valley vs Rural Alabama

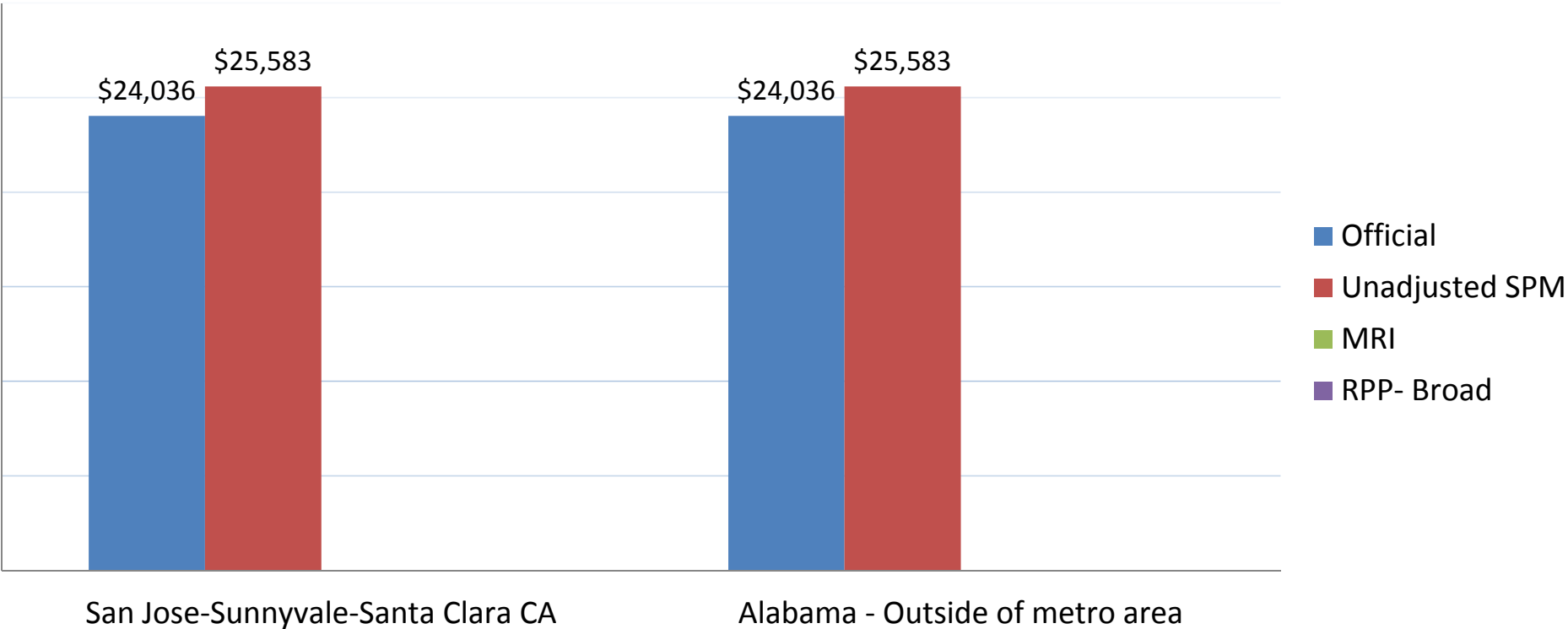
2015– Two Adults Two Children	San Jose- Sunnyvale- Santa Clara, CA	Alabama – outside metro area
Official Poverty Threshold	\$24,036	\$24,036
SPM Threshold: Renters	\$25,583	\$25,583
<b>RPP Index – Broad based</b>	<b>1.23</b>	<b>.83</b>
<b>Adjusted SPM Threshold – Broad Based</b>	<b>\$31,466</b>	<b>\$21,172</b>



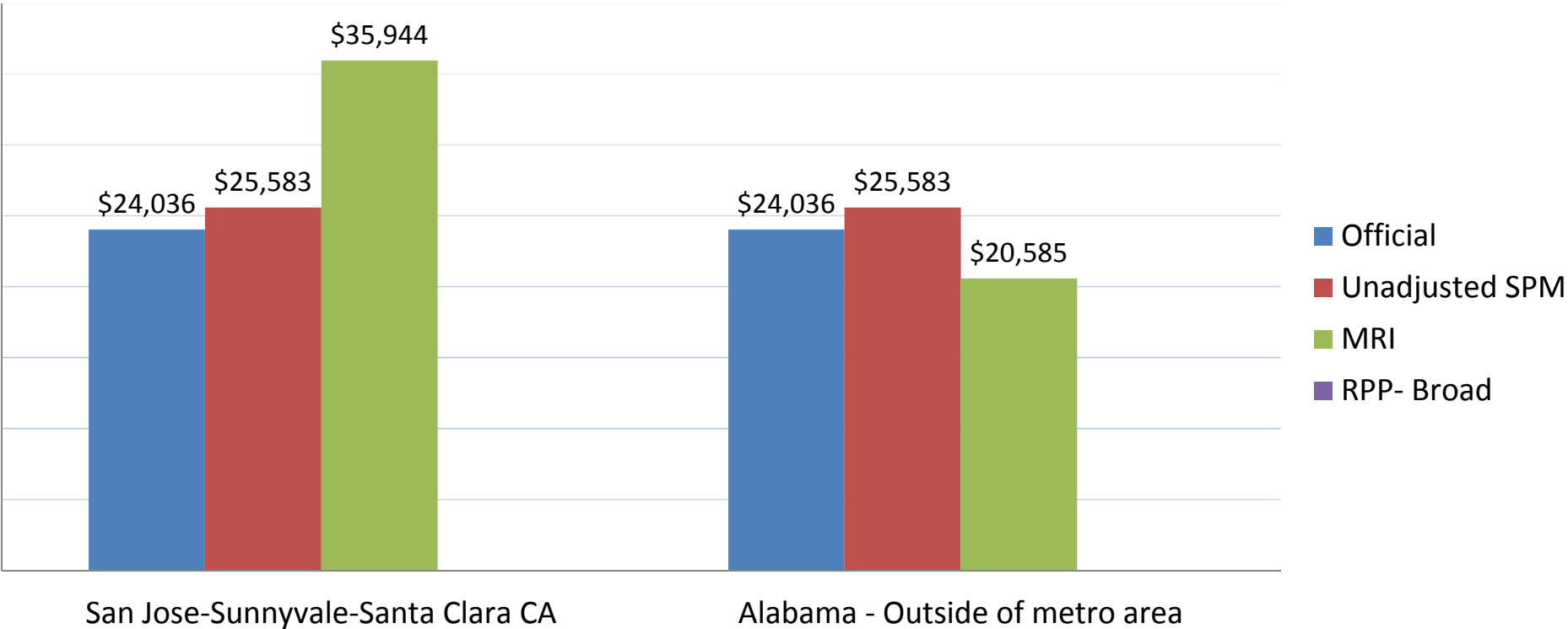
# Comparing SPM Thresholds – Renters with two adults, two children, 2015



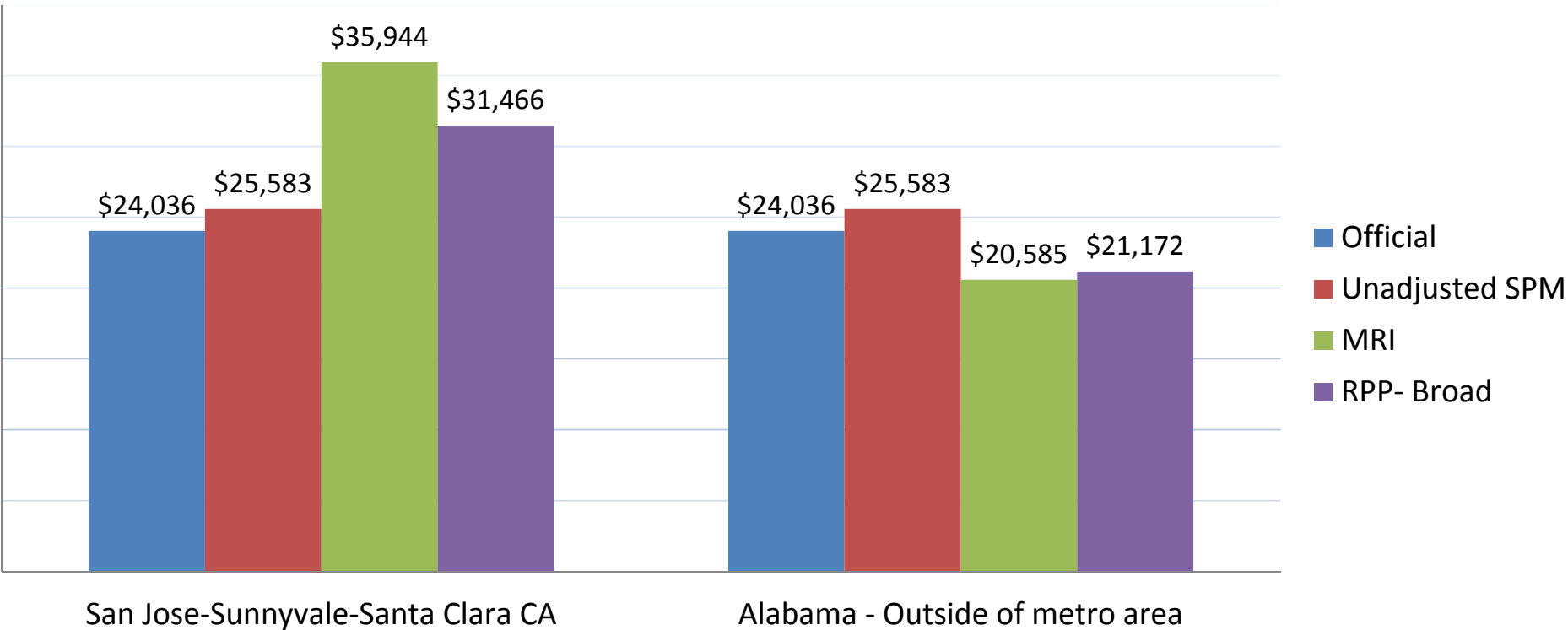
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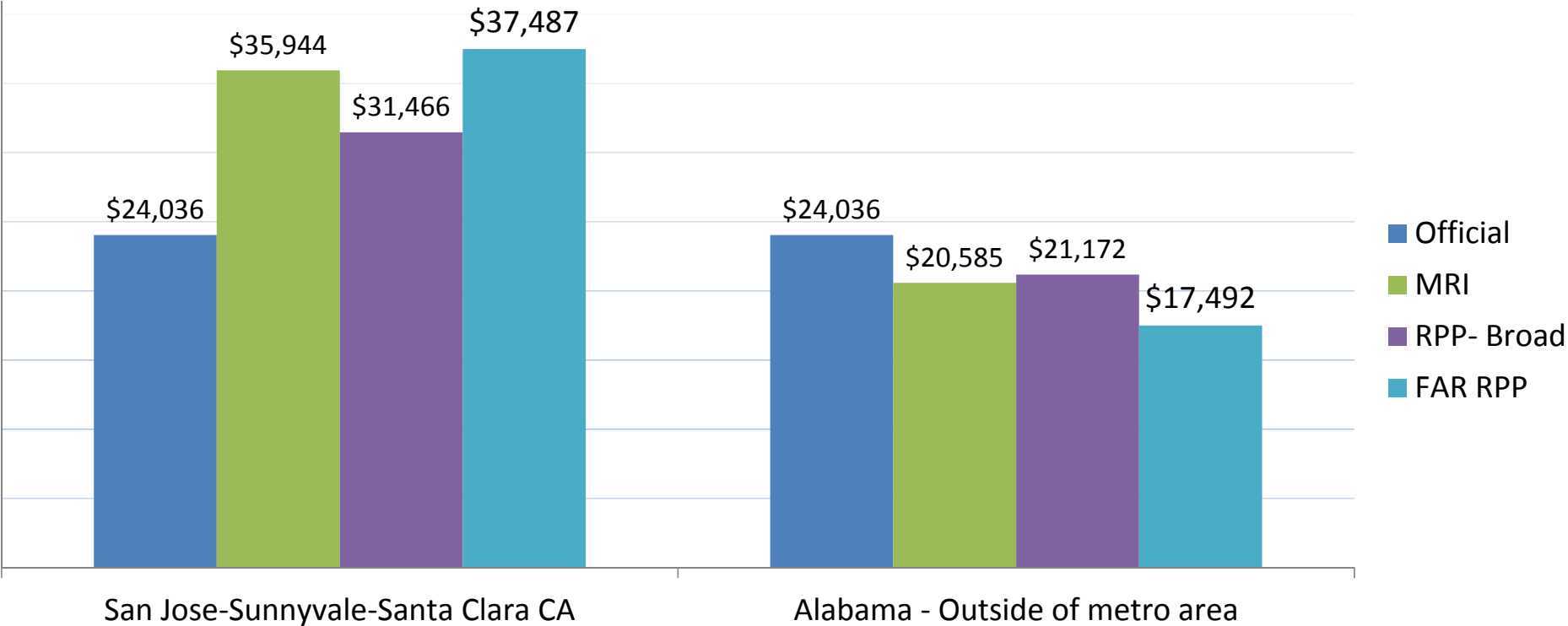
# Regional Price Parities – Narrowly Defined or FAR

- 2014 analysis examined differences between the MRI adjustments and the RPP adjustments.
- Concern that this index includes many goods and services not in the SPM thresholds. Differences in poverty rates driven by differences in expenditure shares.
- BEA developed a special RPP – based solely on Food, Apparel and Rent (FAR).
- One advantage of the FAR RPP is that expenditure shares vary by geography. They do not vary by tenure type.

## Silicon Valley vs Rural Alabama

2015– Two Adults Two Children	San Jose- Sunnyvale- Santa Clara, CA	Alabama – outside metro area
Official Poverty Threshold	\$24,036	\$24,036
SPM Threshold: Renters	\$25,583	\$25,583
RPP Index – Broad based	1.23	.83
Adjusted SPM Threshold – Broad Based	\$31,466	\$21,172
<b>FAR RPP Index</b>	<b>1.47</b>	<b>.68</b>
<b>Adjusted SPM Threshold – FAR RPP</b>	<b>\$37,487</b>	<b>\$17,492</b>

# Comparing SPM Thresholds – Renters with two adults, two children, 2015

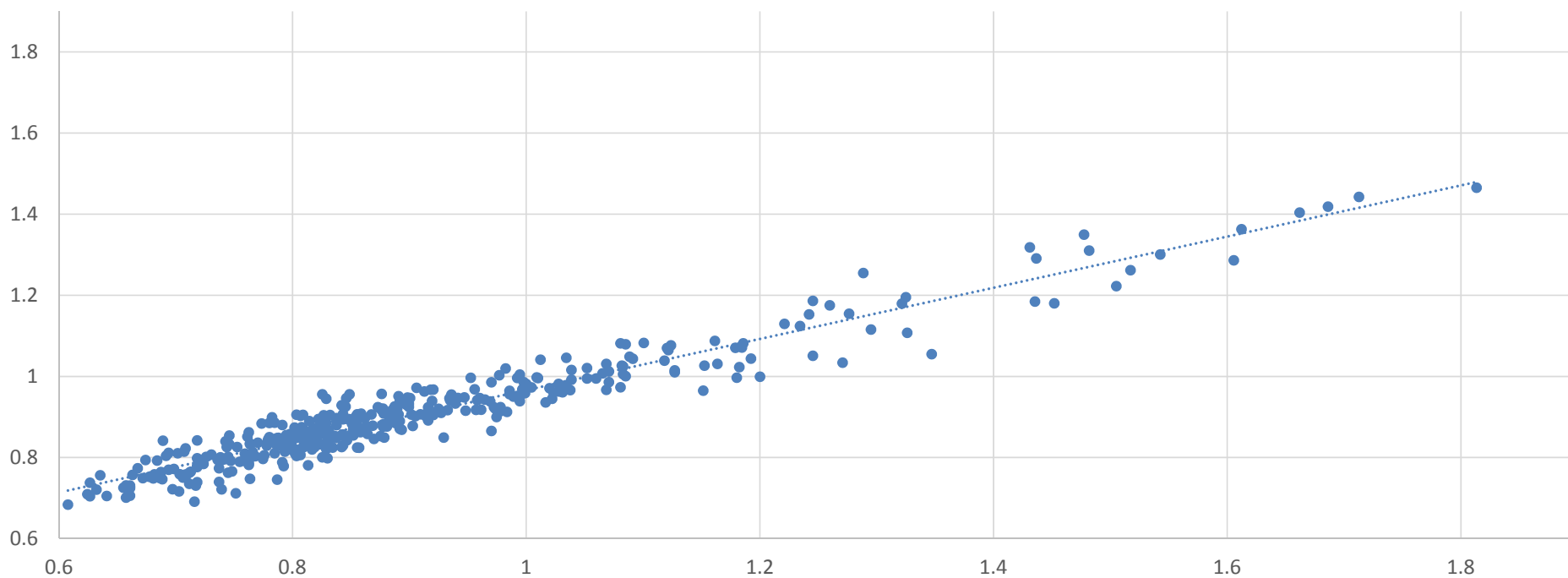


# Threshold Comparisons

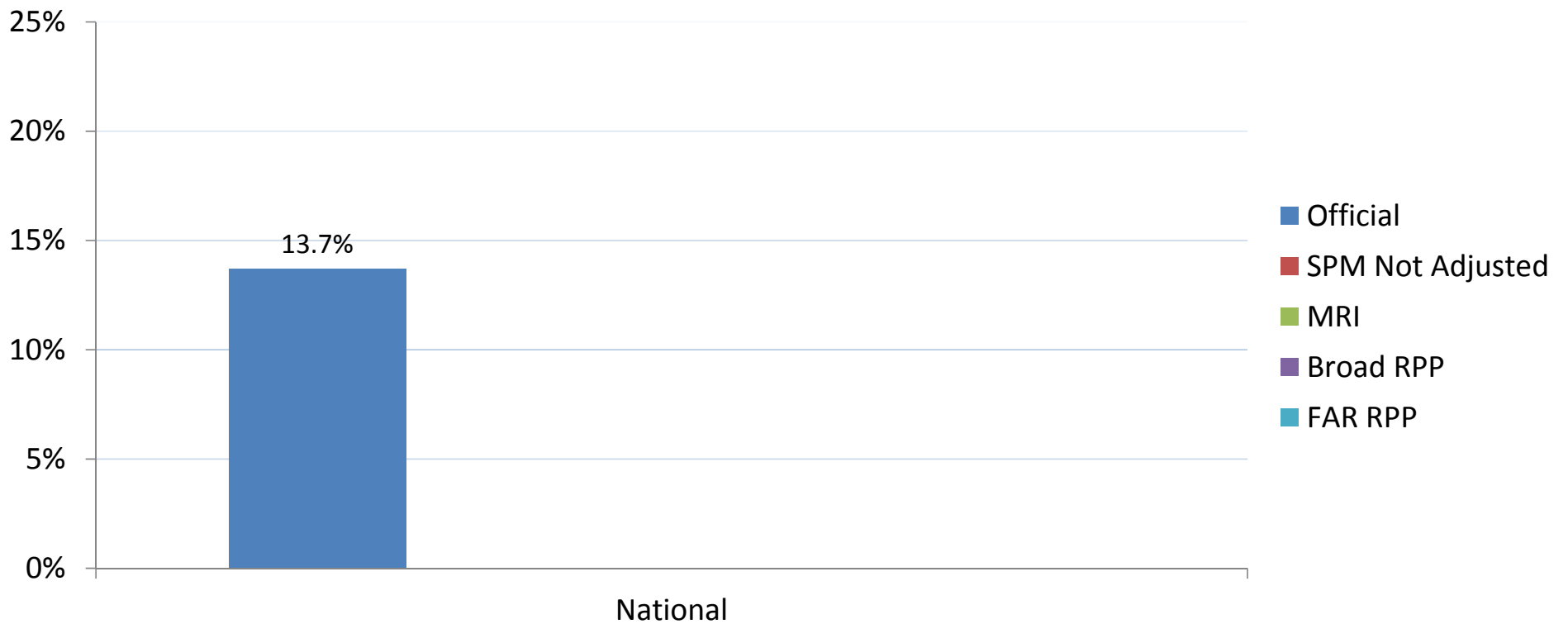
- The 2015 MRI thresholds for SPM resource units who were renters with two adults and two children ranged from \$20,585 for nonmetro Alabama to \$35,944 for San Jose-Sunnyvale-Santa Clara CA MSA.
- For the FAR RPP adjusted thresholds, the values ranged from \$17,492 for nonmetro Alabama to \$37,487 for San Jose-Sunnyvale-Santa Clara CA MSA.
- The difference between the highest and lowest threshold for the MRI was \$15,359 while the range for FAR RPP adjusted thresholds was \$19,995.



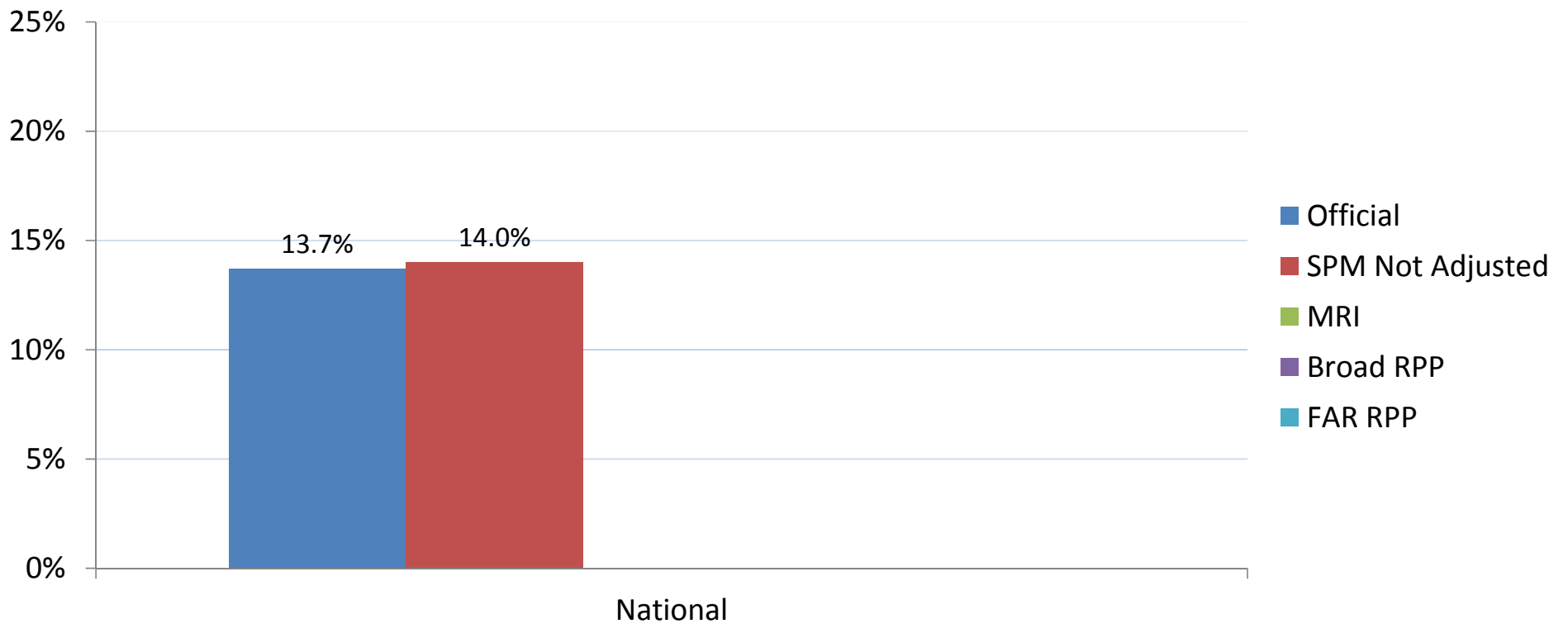
# Correlation between MRI index and FAR RPP index: 96.1



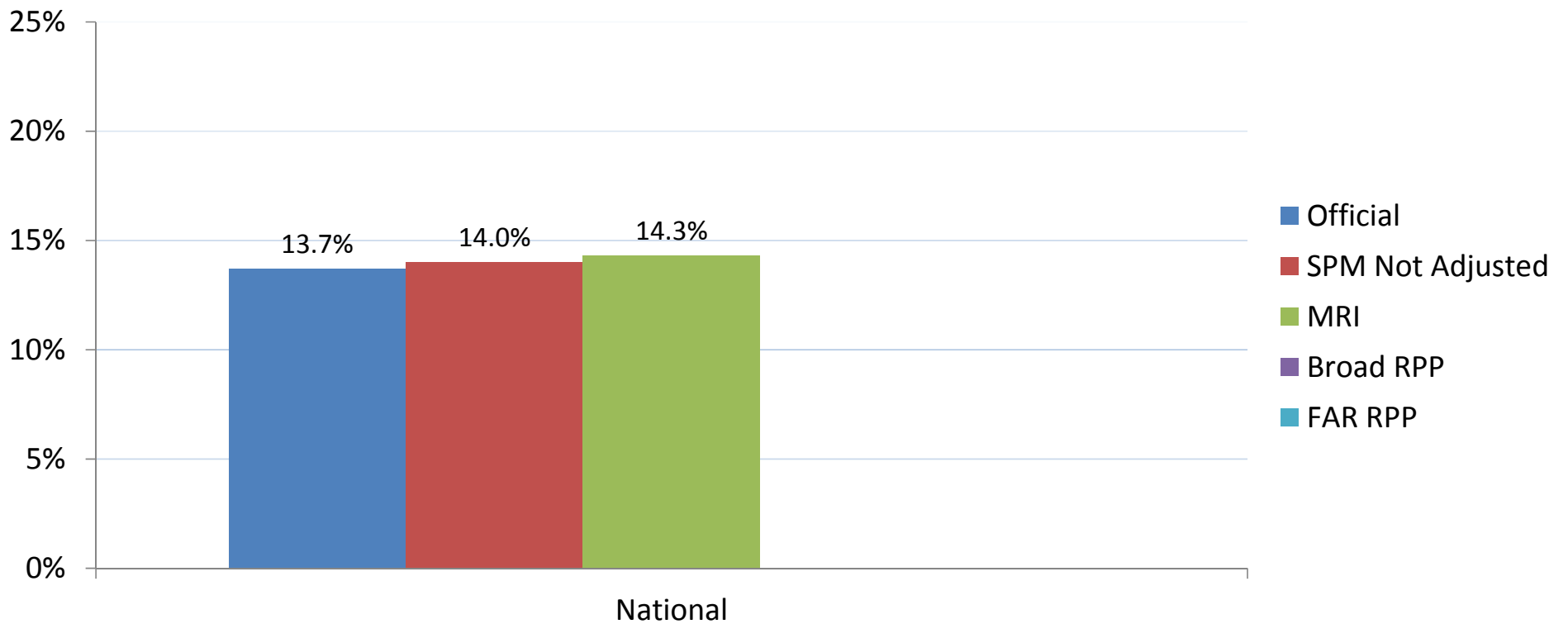
# Comparing 2015 Poverty Rates: National



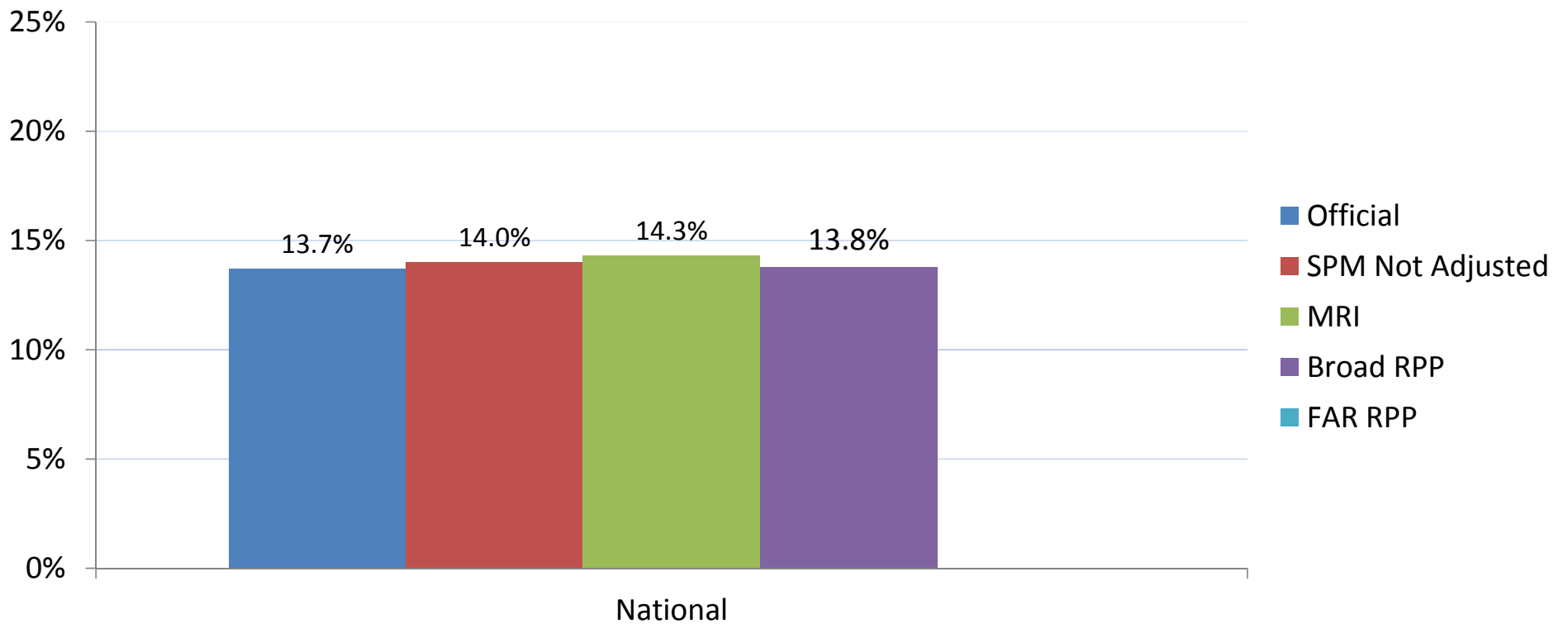
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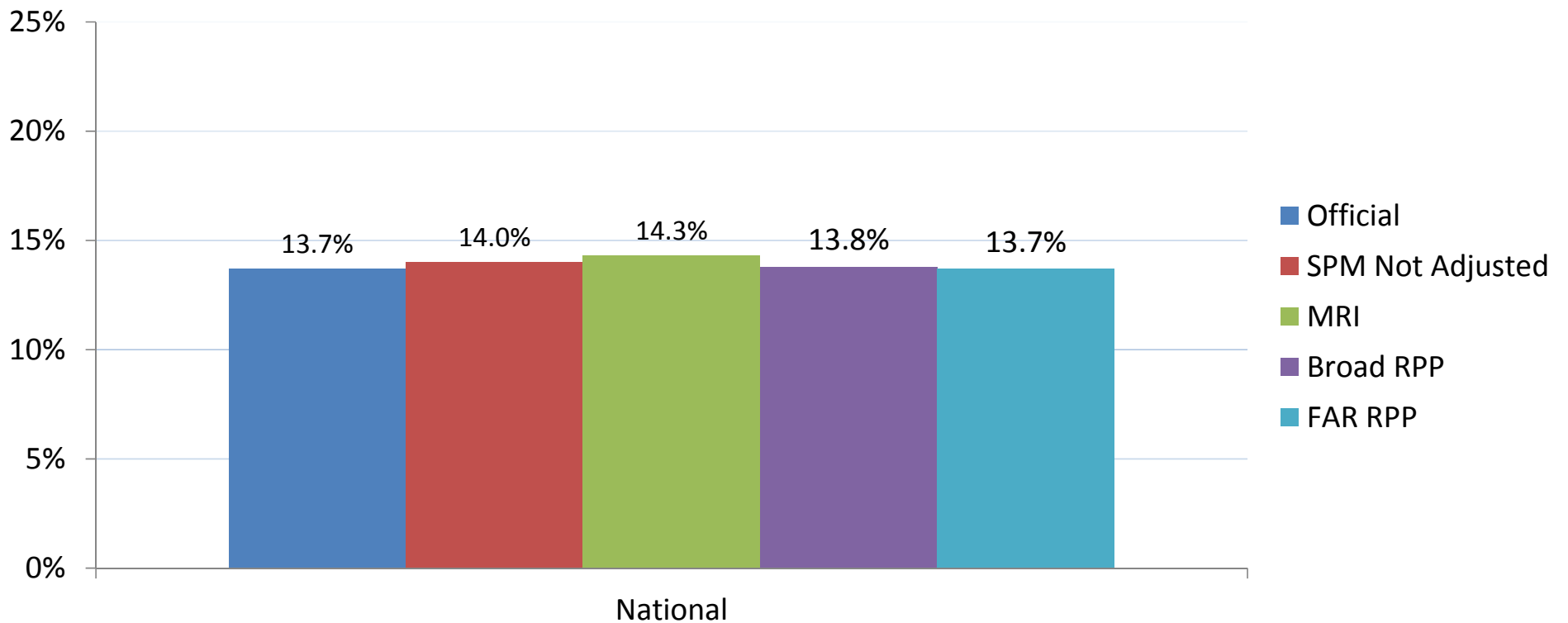
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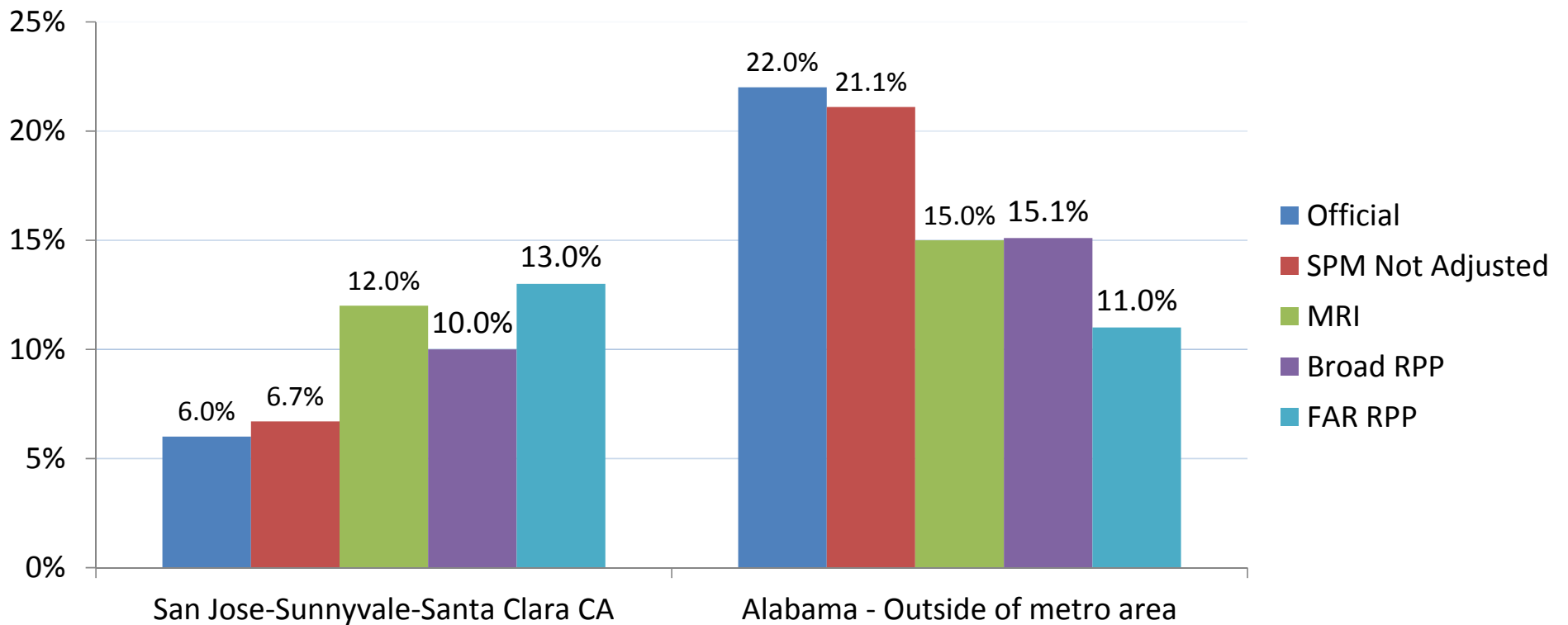
# Comparing 2015 Poverty Rates: National

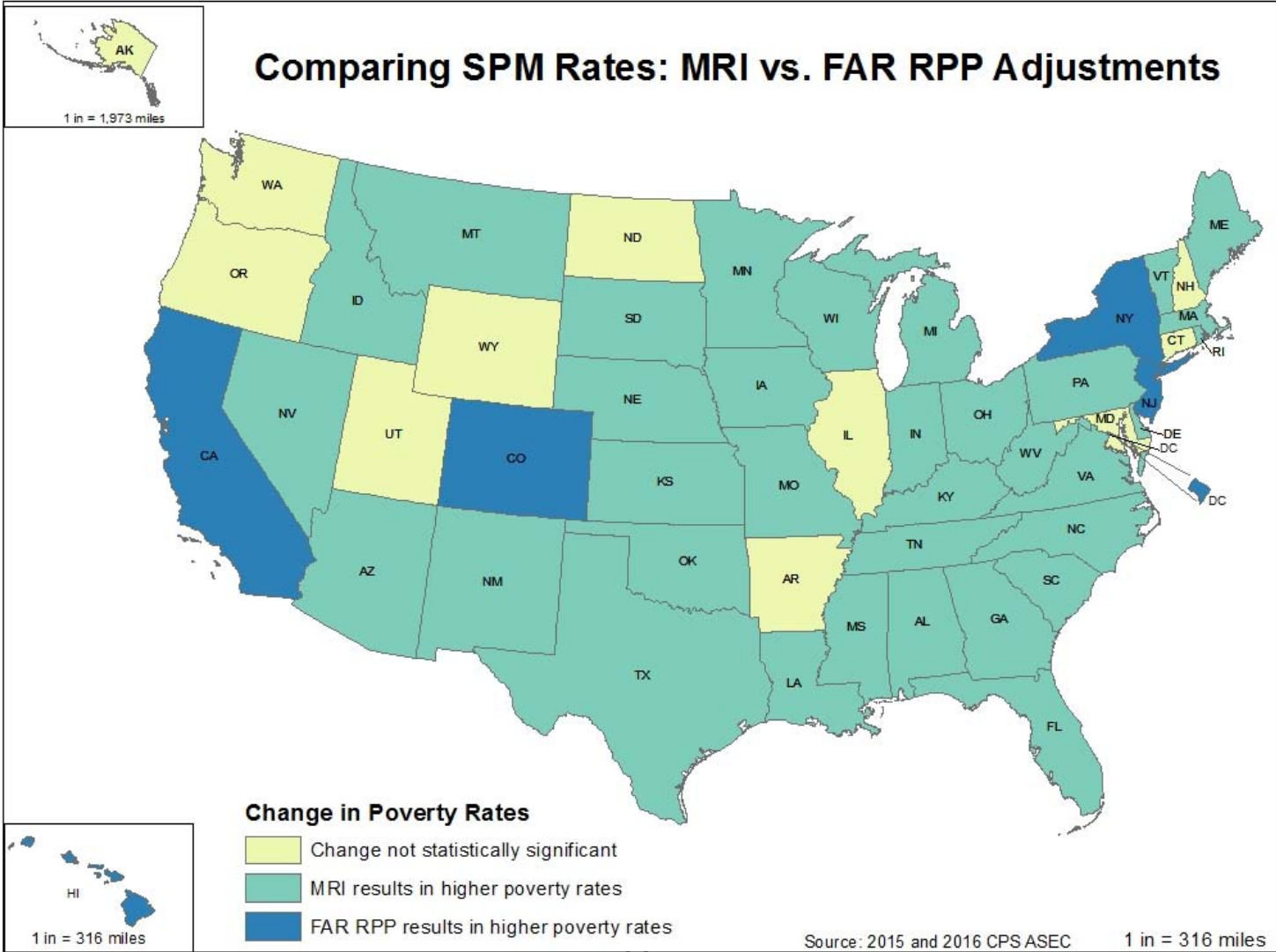


# Comparing 2015 Poverty Rates: National

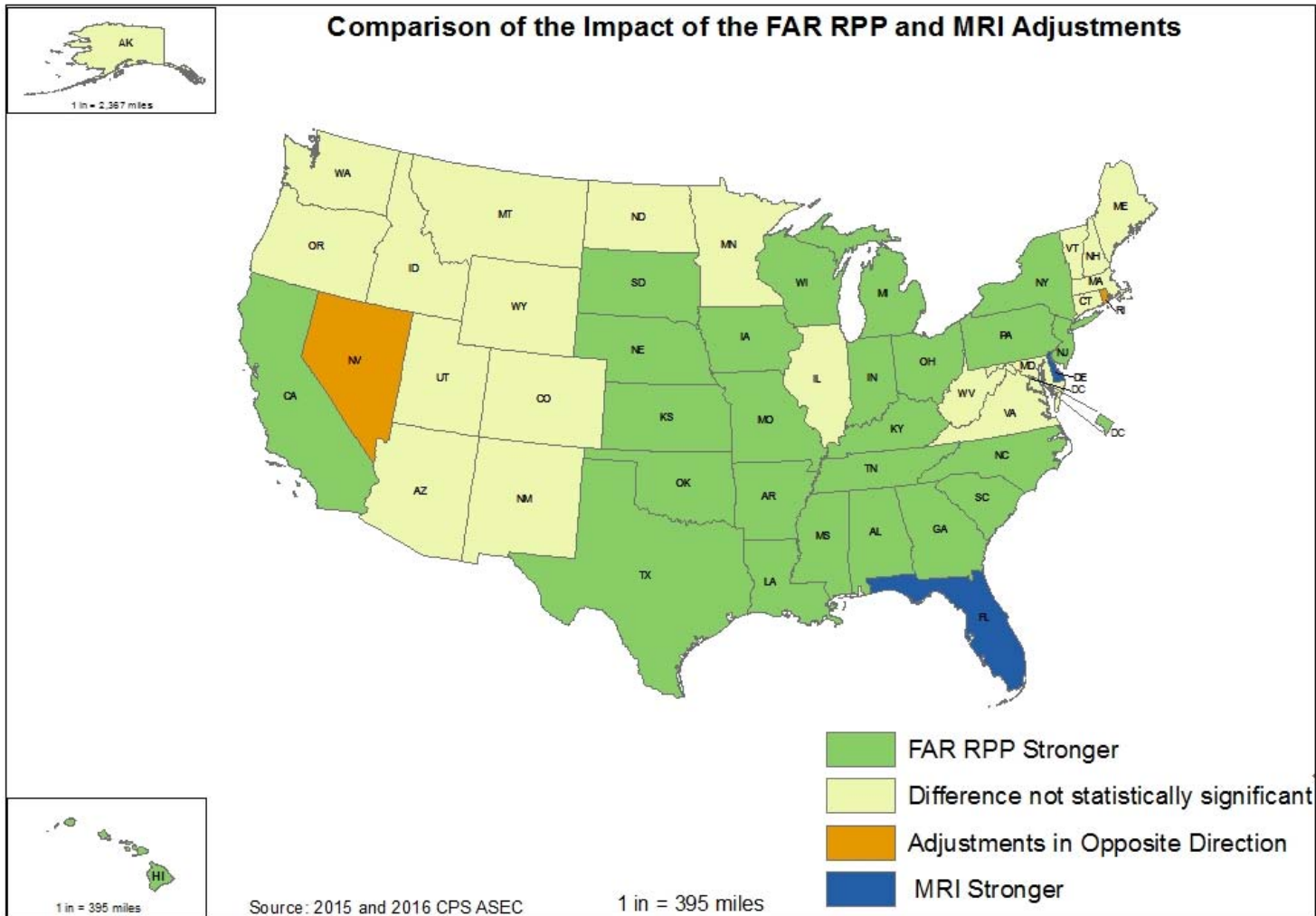


# Comparing 2015 Poverty Rates: Silicon Valley vs Rural Alabama









# Analysis

- Differences driven by the different weights given to shelter costs in the two approaches.
  - In the SPM thresholds, shelter costs represent between 40 and 51 percent of the threshold.
  - In the FAR RPPs, rent costs represent between 28 and 65 percent of the index – for the broad RPPs this is a smaller share.
  - Sensitivity analysis, not shown today, replaced MRI rent index with the RPP rent index – very small differences.

# Should we change to the FAR RPP index?

## Pros

- Takes into account price differences beyond housing
- Index developed by experts in the field
- Rent measure more sophisticated, hedonic method takes into account more factors, e.g. age of structure
- Expenditure shares not fixed across geographic boundaries
- Consistent with the methodology used for the national accounts

## Cons

- Census Bureau must rely on BEA experts to continue to produce the narrow index
- Harder to explain than simple median of rents for 2-bedroom units
- Does not take into account differences in expenditure shares by housing tenure
- Strengthens the geographic adjustments that many have criticized historically as being “too” strong

# Next Steps

- Investigate methods to evaluate the poverty rates that result from the two indices
  - Correlation to measures of hardship?
  - Other criteria?
- Consider the importance of these adjustments – what are our priorities for improvements?
  - Changes the poverty status for a relatively small percentage of the population (less than 2 percent)
- Using the American Community Survey to create SPM estimates for smaller geographies

## Contact Information

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# DISCUSSION OF SPM REFINEMENT SCHEDULE

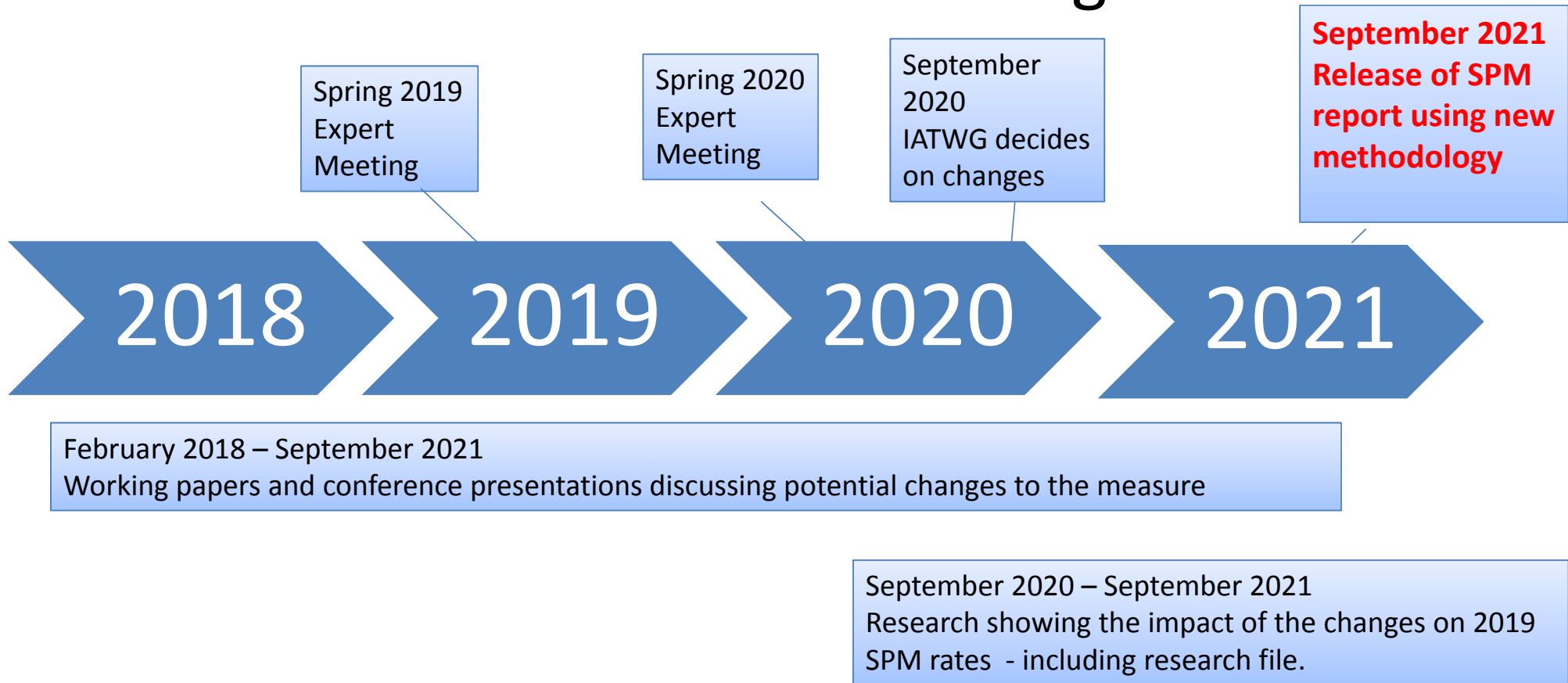
# Process for Making Changes to the SPM

## GUIDANCE FROM THE INTERAGENCY TECHNICAL WORKING GROUP SUGGESTIONS

*The Working Group envisions that the Census Bureau will update the SPM on an annual basis and improve it as new data, new methods, and further research become available.*

- *As with any statistic regularly published by a Federal statistical agency, the Working Group expects **that changes in this measure over time will be decided upon in a process led by research methodologists and statisticians within the Census Bureau in consultation with BLS and with other appropriate data agencies and outside experts, and will be based on solid analytical evidence.***
- ***Techniques that impute the value of family unit resources, such as estimation of in-kind benefits, work expenses, taxes, etc., should be updated as often as possible.** The measure should change smoothly and this requires regular updating of as many components as possible.*
- *Consistency over time in an SPM (as in any statistic) is a valuable characteristic so that, after an initial experimental period, **any definitional changes to this measure should be weighed against the effect on historical consistency.** As definitional changes are made to the SPM in the future, creating an historical series should be considered if this is possible with available historical data.*

# Timeline for SPM Changes





# TIMELINE

2018

2019

2020

2021

Conference papers and presentations discussing potential changes to the measure

May 2019 and May 2020  
Public meetings with poverty measurement experts to discuss potential changes

IATWG meets to decide on changes

September

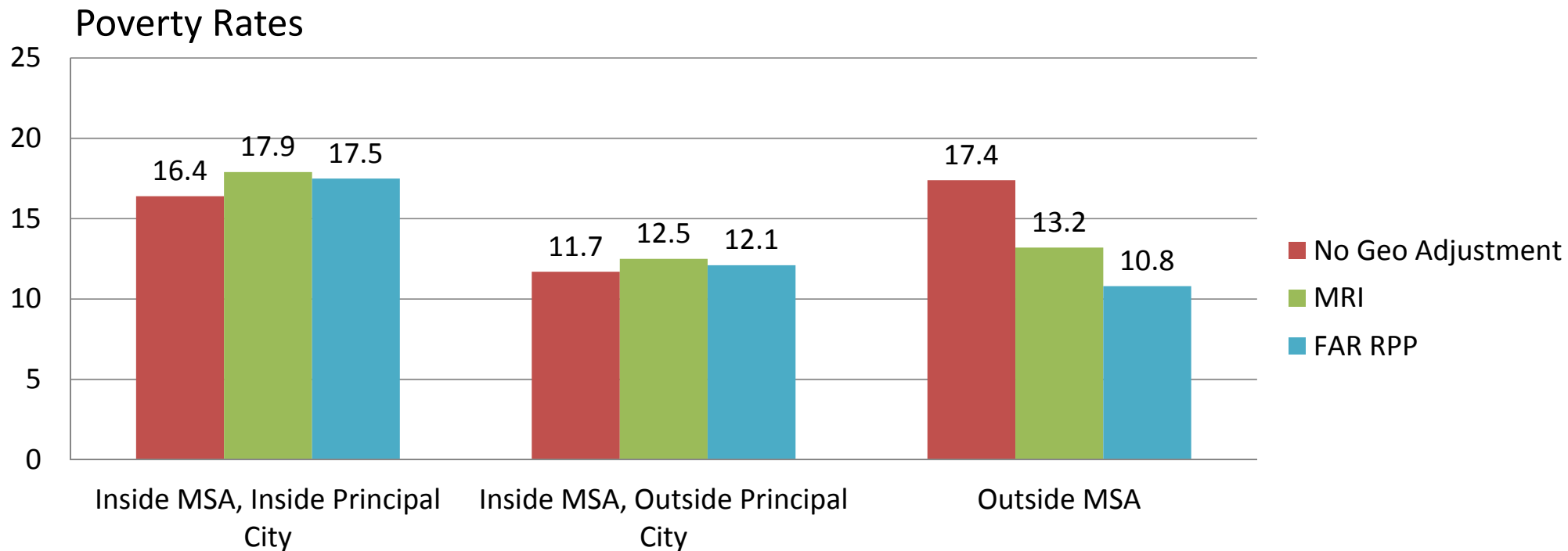
September

**Release of SPM report using new methodology**

Research showing the impact of the changes on 2019 SPM rates  
Research file with 2019 estimates – December 2020  
Session at AEA meetings – January 2021

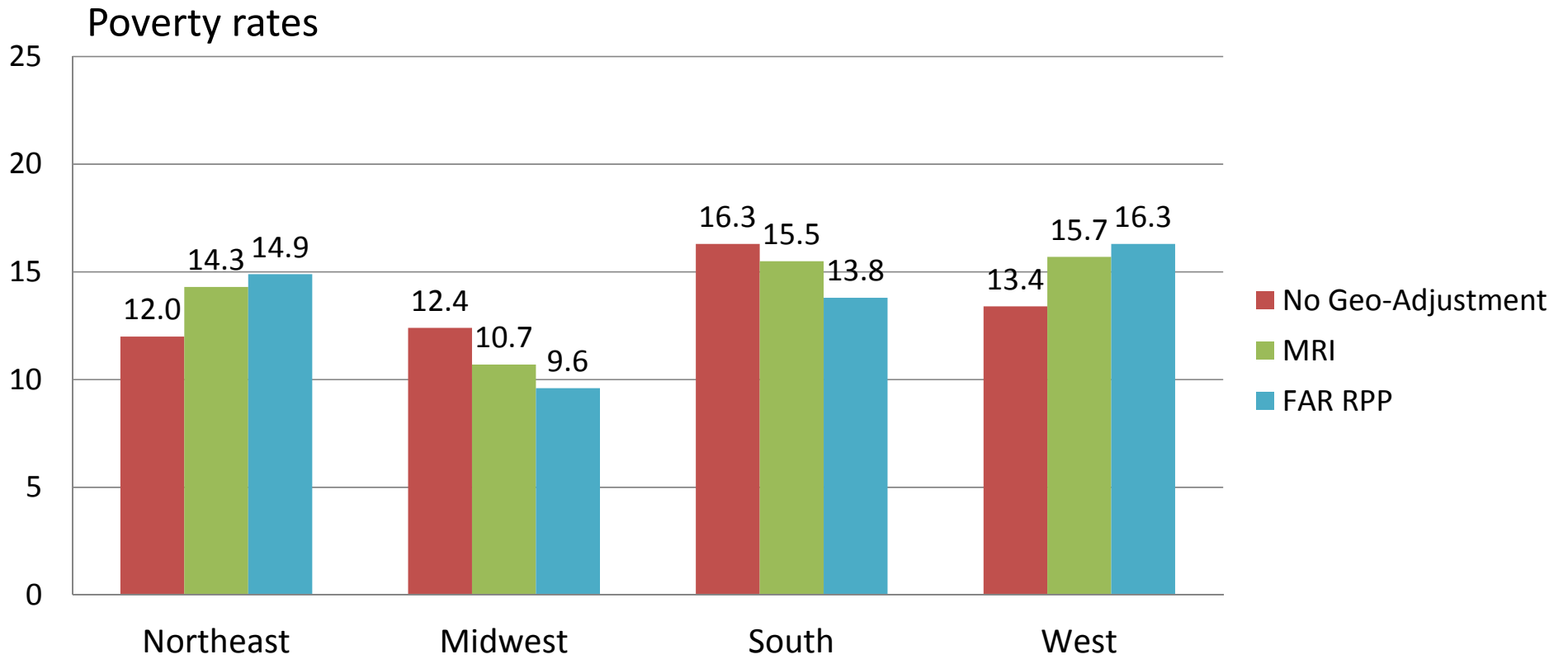
# EXTRA SLIDES

# Place of Residence

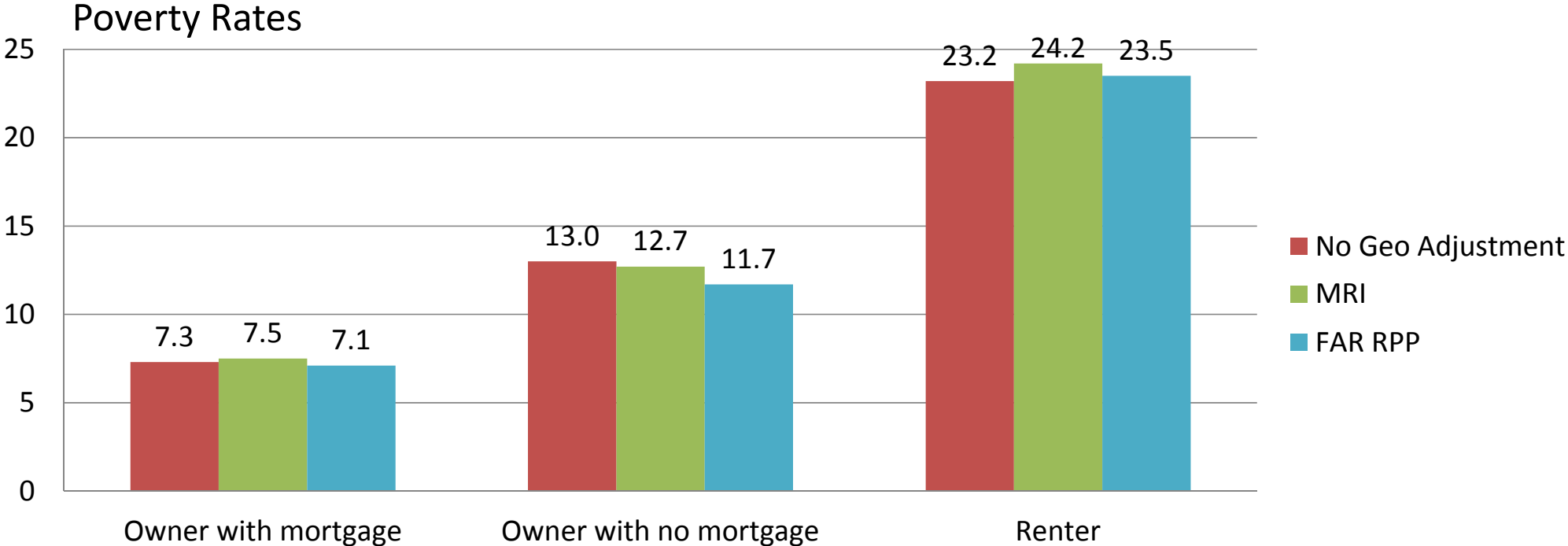


Source: 2016 CPS ASEC

# Region



# Tenure



Source: 2016 CPS ASEC