

What Can the Current ACS Data Tables Tell Us About Housing and Migration?

**ACS Data Users Conference
Measuring ACS Data Quality Session**

May 15, 2019

Jeff Hardcastle
Nevada State Demographer
Nevada Department of Taxation

What I Will Be Covering

- **The data inquiry that started my looking into this**
- **ACS as a way to ground truth anecdotal stories**
- **Looking at statistical measures for ACS**
- **Population Estimates – Control total but possible errors**
- **Conclusions and Observations**
- **A Brief Statistical and Policy Side Note on Accuracy and Utility**

Nevada

DEPARTMENT OF TAXATION

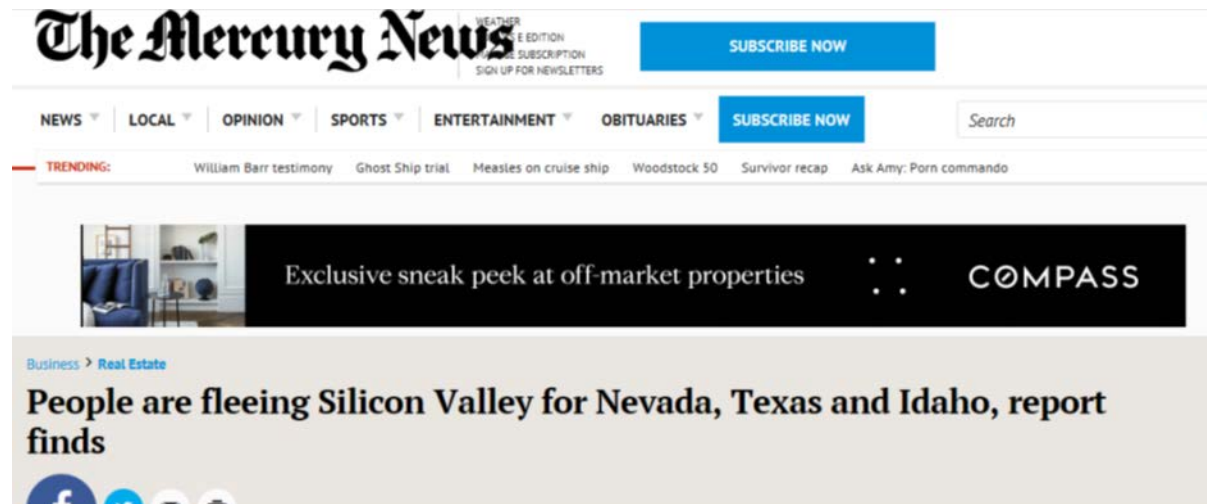
The original inquiry that started me looking at this was based on this article and frames some of this presentation.



reno gazette journal HOME NEWS BUSINESS SPORTS LIFE OUTDOORS USA TODAY MORE  [Subscribe](#)

Here's how many people are leaving California's housing hellscape for 'cheap' Reno living



Based on RedFin.com's Migration Tool



The Mercury News WEATHER EDITION [SUBSCRIBE NOW](#)
PAID SUBSCRIPTION
SIGN UP FOR NEWSLETTERS


NEWS LOCAL OPINION SPORTS ENTERTAINMENT OBITUARIES [SUBSCRIBE NOW](#)

TRENDING: William Barr testimony Ghost Ship trial Measles on cruise ship Woodstock 50 Survivor recap Ask Amy: Porn commando

 Exclusive sneak peek at off-market properties 

Business > Real Estate

People are fleeing Silicon Valley for Nevada, Texas and Idaho, report finds



Based on Realtor.com's Cross-Market Demand

There are multiple private sources on migration:

- Redfin
- Realtor.com
- Allied; United Van Lines, U-Haul

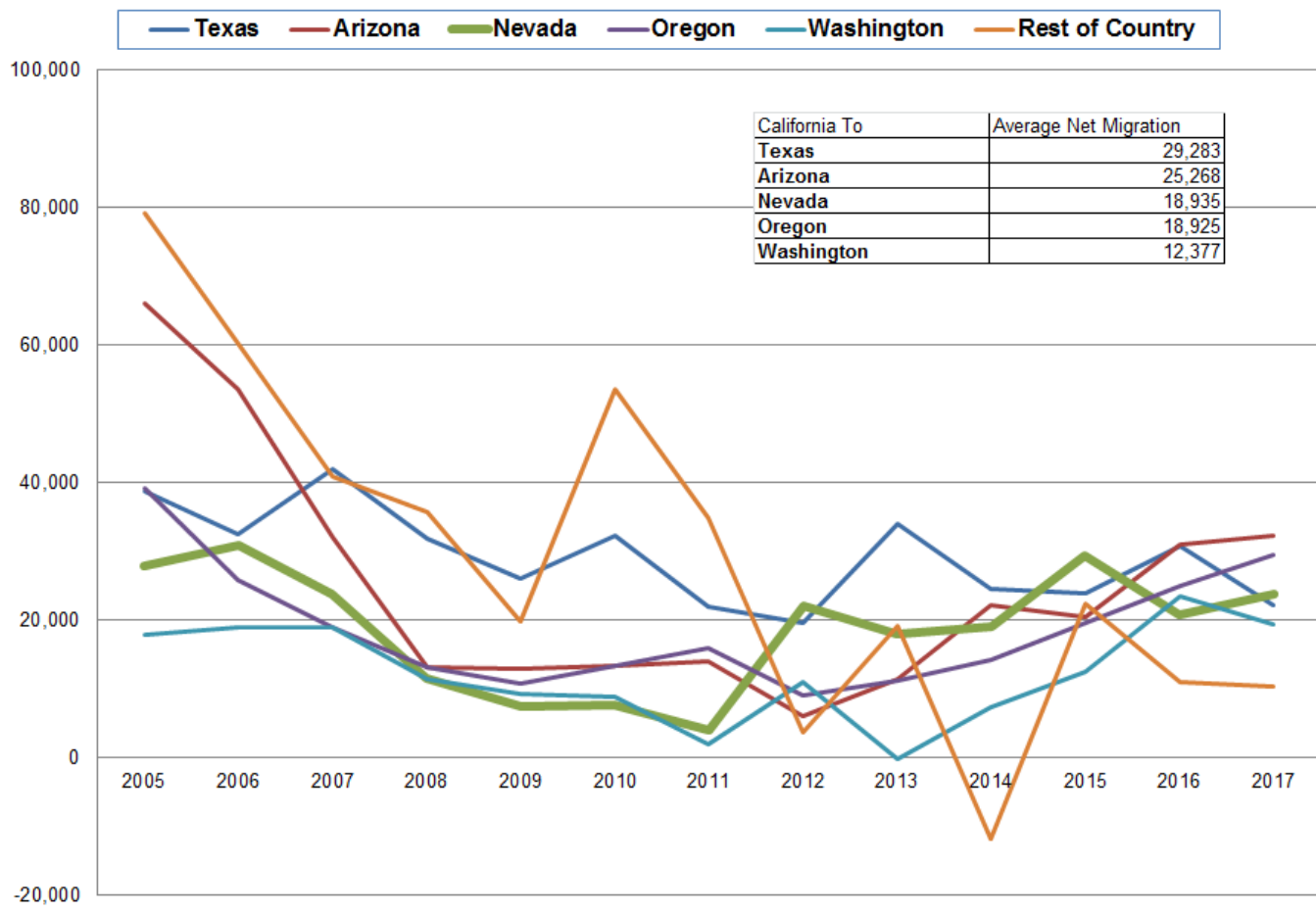
Public –

- IRS County to County Migration Data
- Census Bureau's Population Estimates
- Current Population Survey
- ACS –
 - Provides on characteristics tables, Flow Mapper, PUMS
 - Can compare regions for push and pull factors
 - Housing Tenure
 - Prices
 - Income
 - Ratio of Cost to Income

The story is as important as the accuracy.

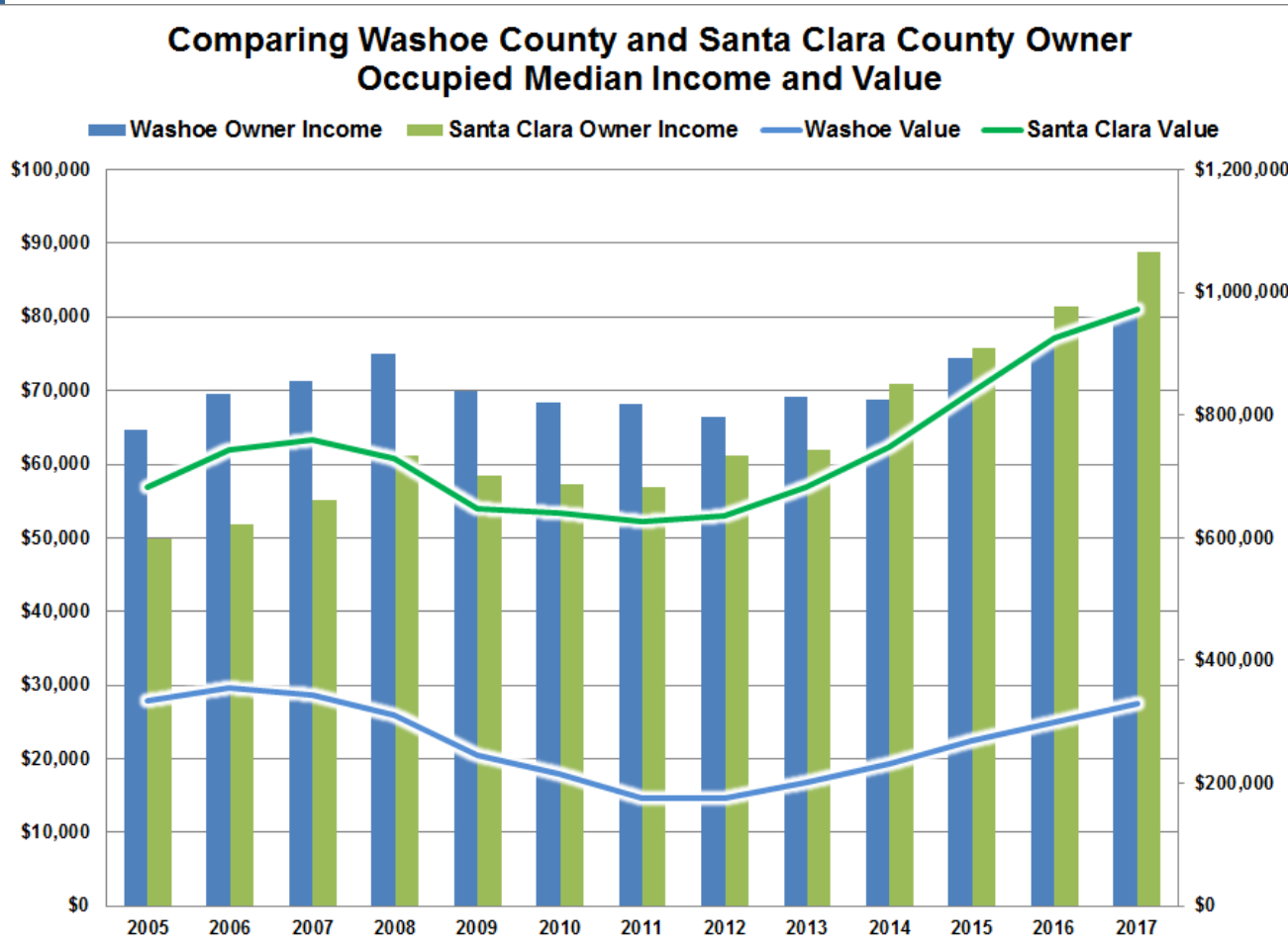
ACS shows that there is net migration out of California but the level is uneven and declining

Net Migration from California Top 5 States and Balance of US



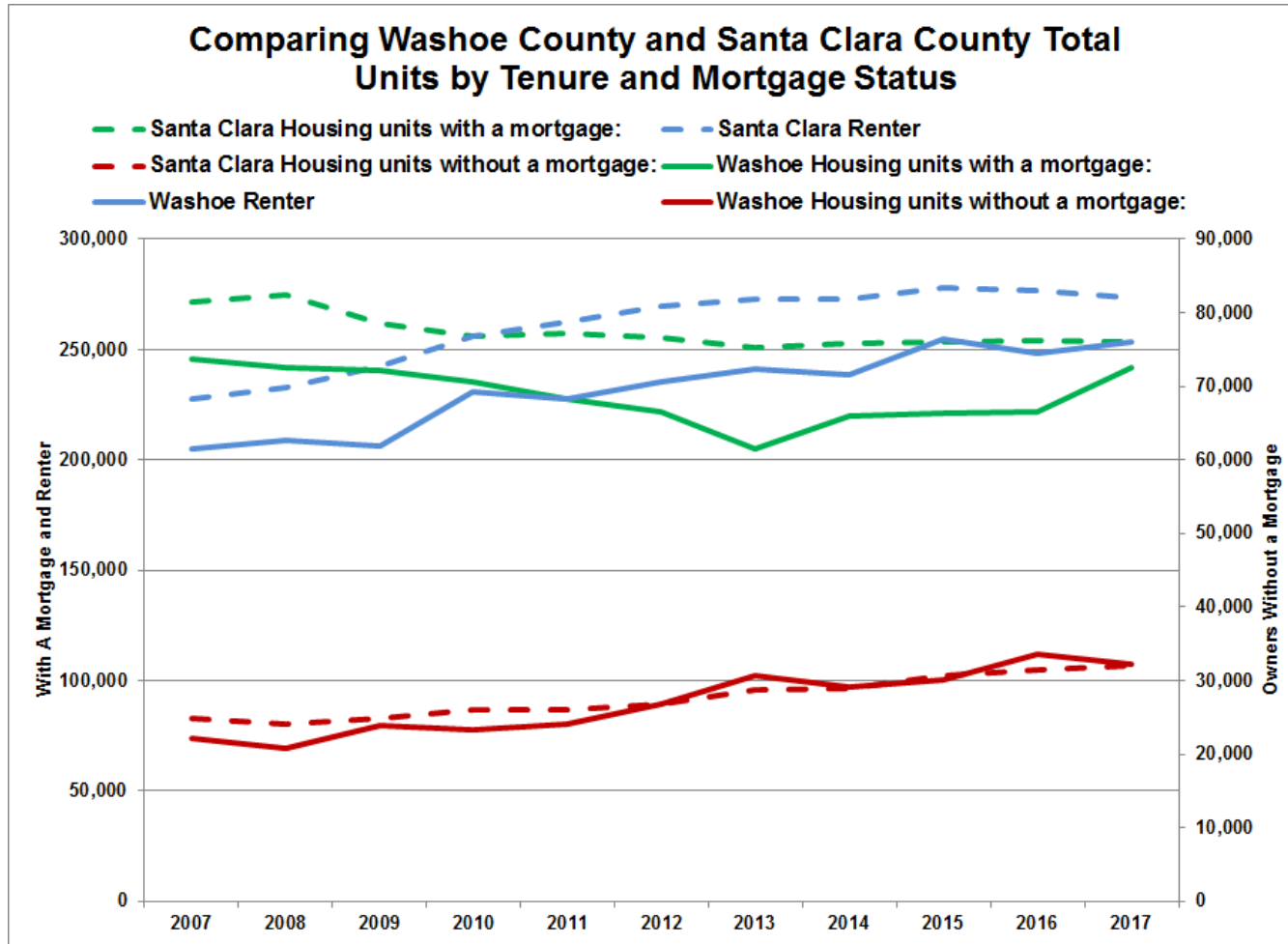
Source: 2017 American Community Survey 1-Year Estimates: State-to-State Migration

Owner occupied housing and value are different for Washoe and Santa Clara Counties



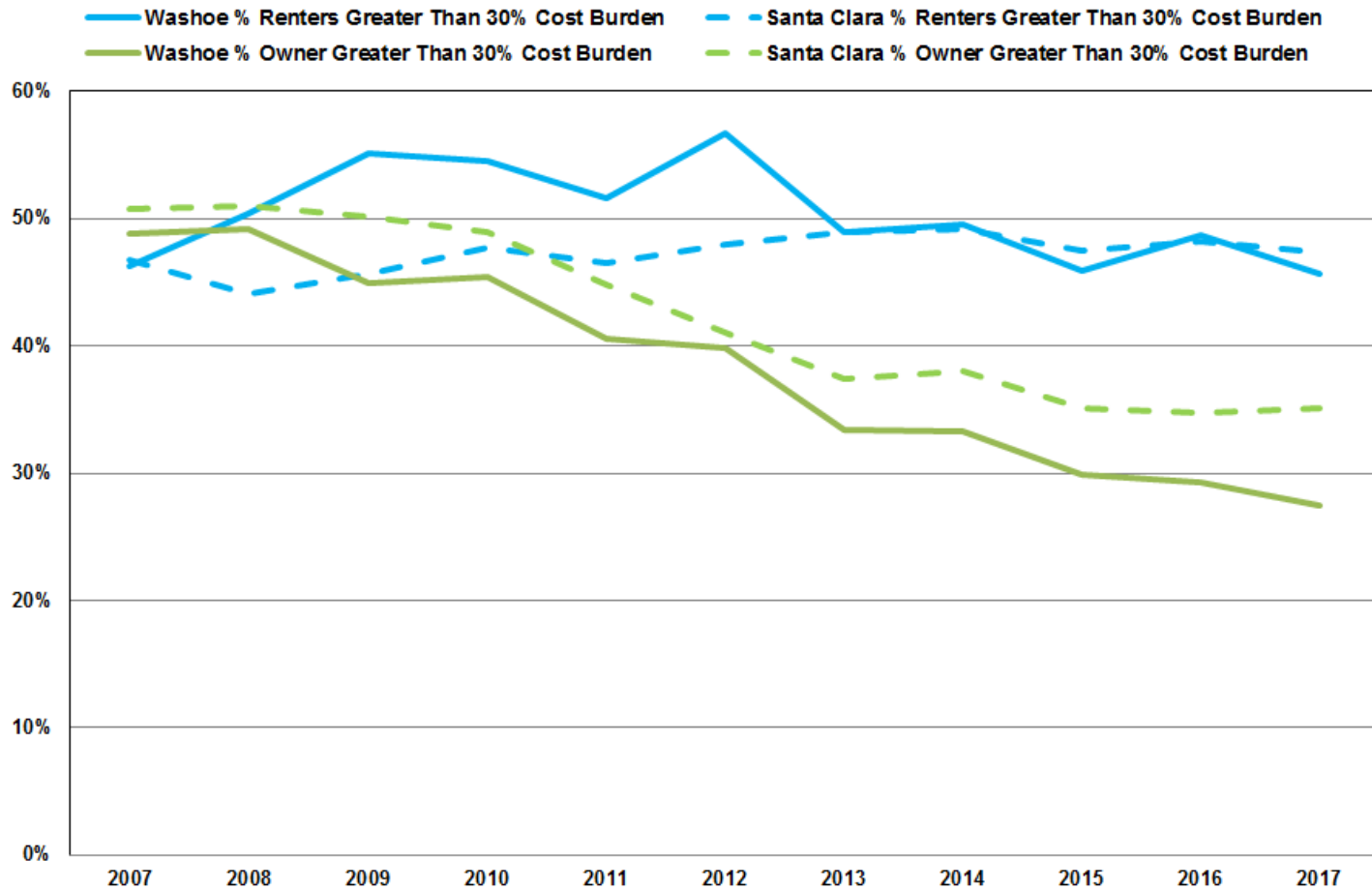
Source: 2017 American Community Survey 1-Year Estimates: B25119 Median Household Income The Past 12 Months By Tenure and B25077 Median Value (Dollars)

Housing cost is higher but the tenure and mortgage status are similar



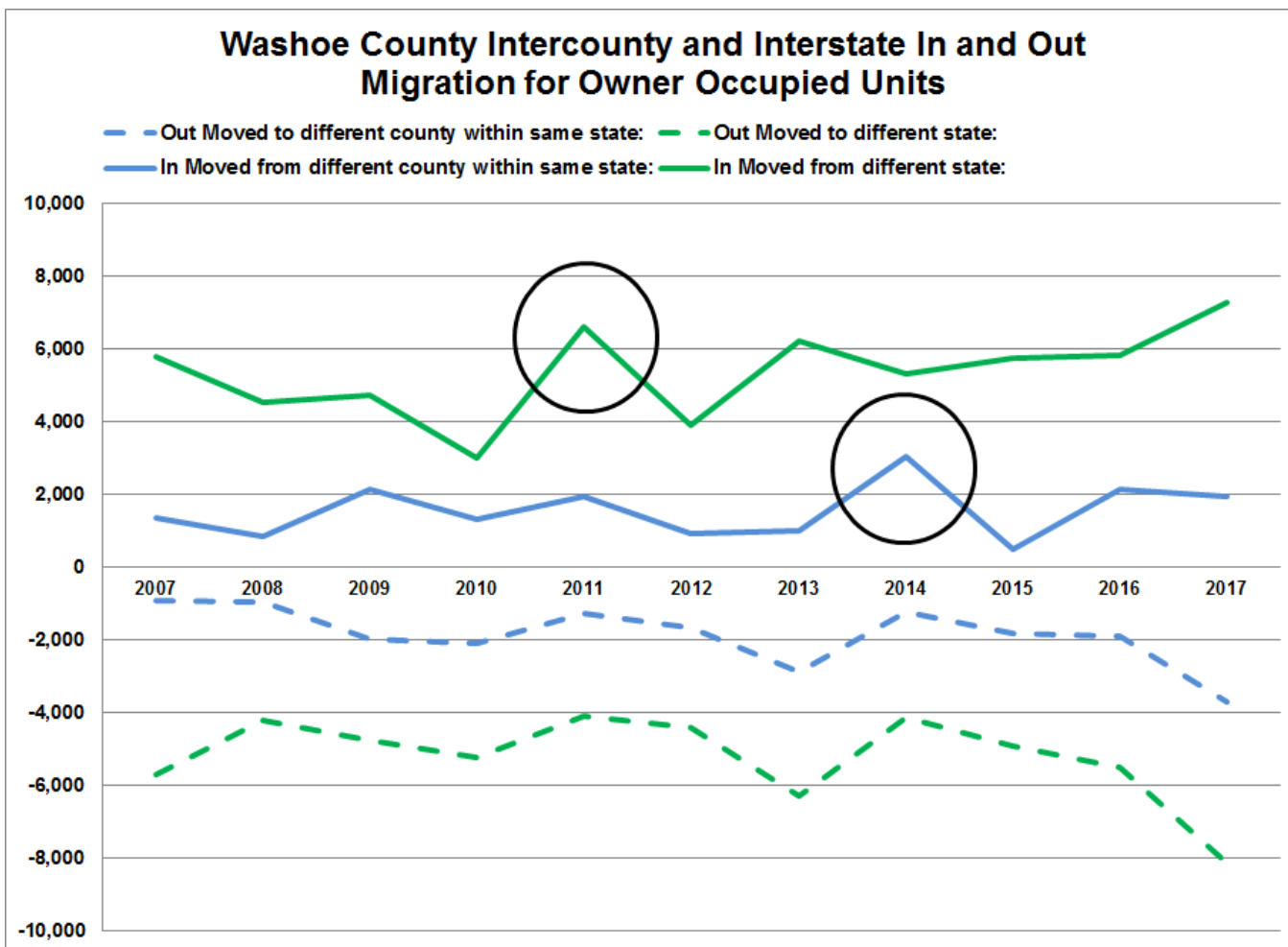
Source: 2017 American Community Survey 1-Year Estimates: B25070 Gross Rent As A Percentage Of Household Income In The Past 12 Months and B25091 Mortgage Status By Selected Monthly Owner Costs As A Percentage Of Household Income In The Past 12 Months

Percent of Households with 30% or Greater Housing Cost Burden for Washoe and Santa Clara Counties



Source: 2017 American Community Survey 1-Year Estimates: B25070 Gross Rent As A Percentage Of Household Income In The Past 12 Months and B25091 Mortgage Status By Selected Monthly Owner Costs As A Percentage Of Household Income In The Past 12 Months

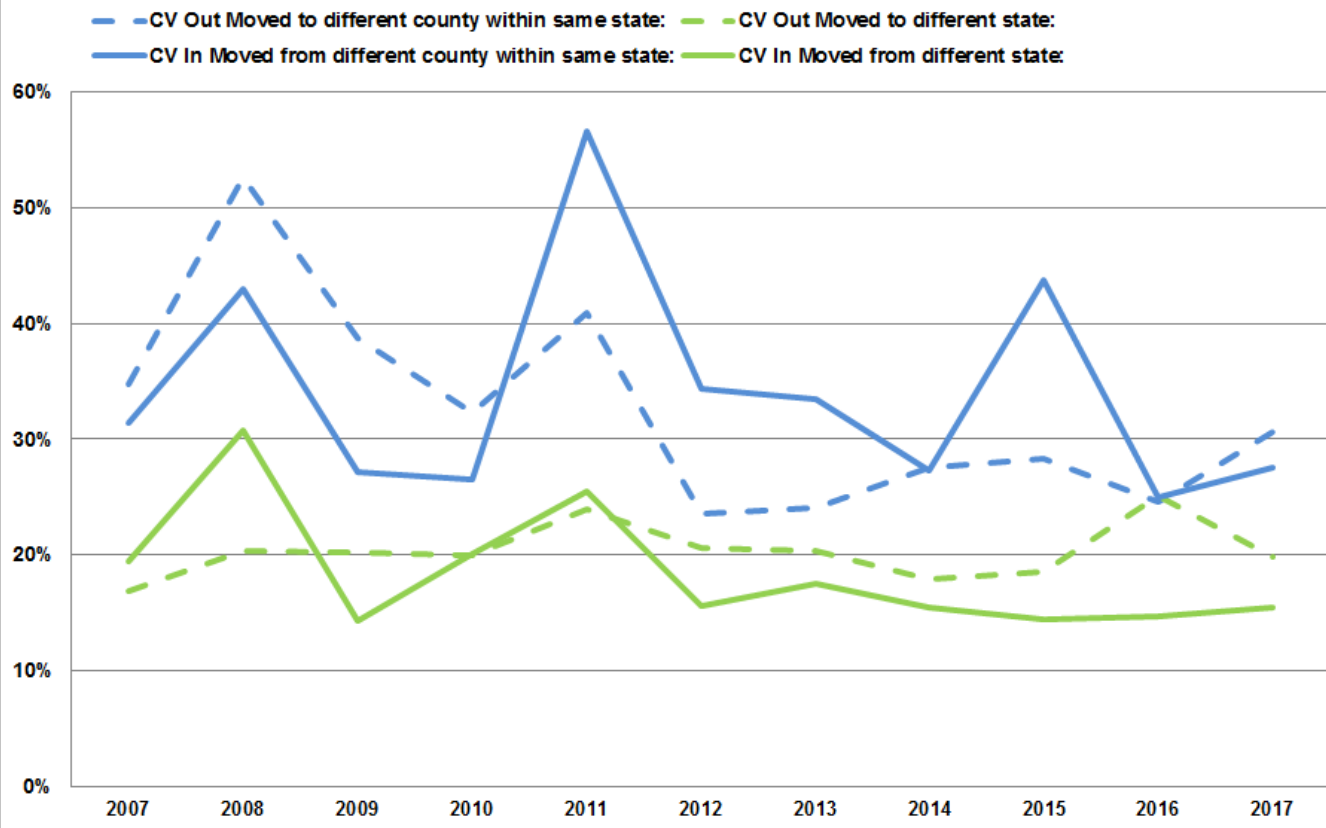
Washoe County's migration does not seem to explain the rise in prices



Source: 2017 American Community Survey 1-Year Estimates: B07013 Geographical Mobility In The Past Year By Tenure For Current Residence In The United States and B07413 Geographical Mobility In The Past Year By Tenure For Residence 1 Year Ago In The United States

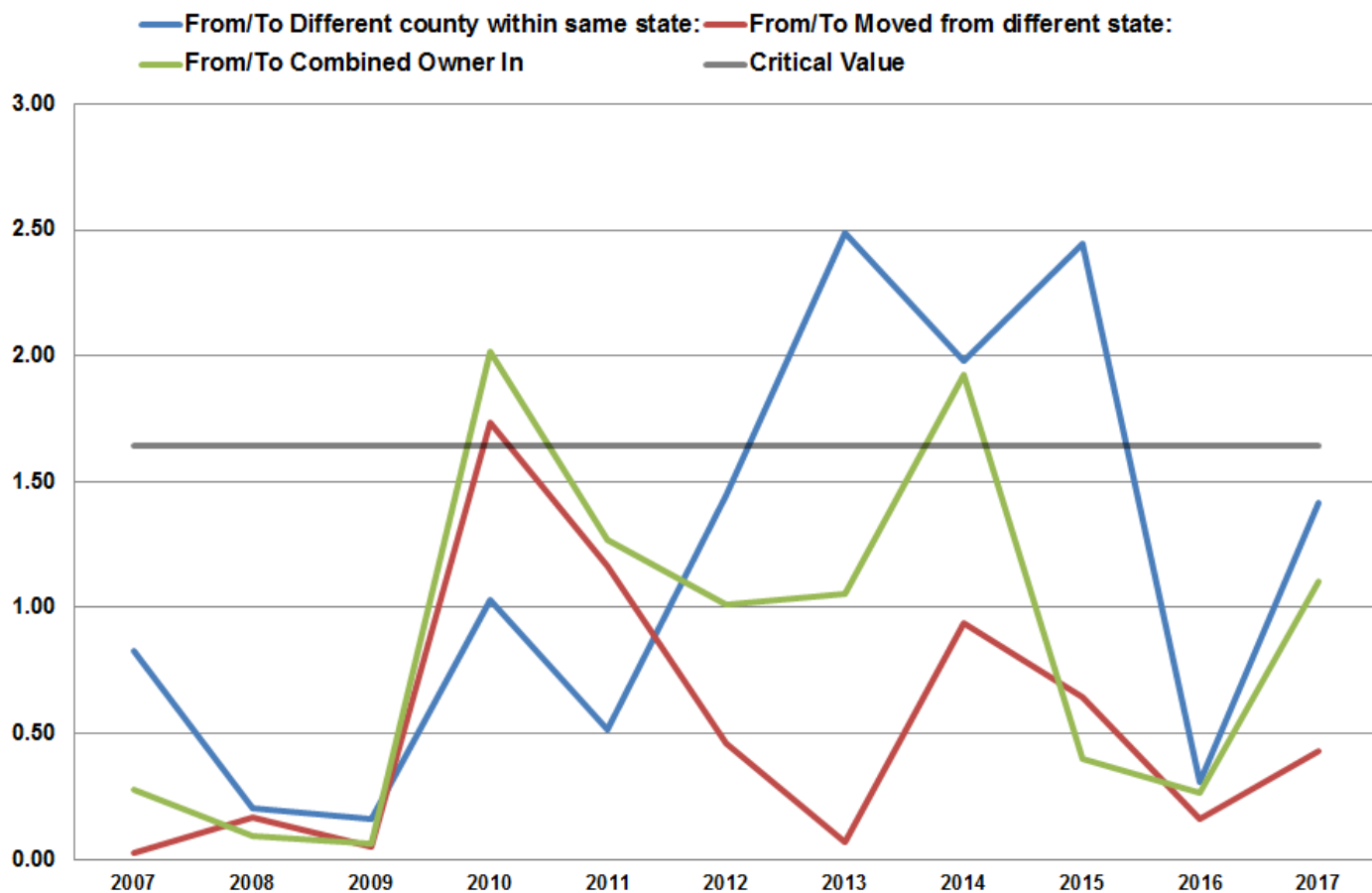
While not ideal the CV's for out of state migration are better than for movement within Nevada

In and Out Migration Coefficients of Variation for Washoe County Intercountry and Interstate Owner Occupied Households



In terms of statistical significance, with a few exceptions, net migration is negligible

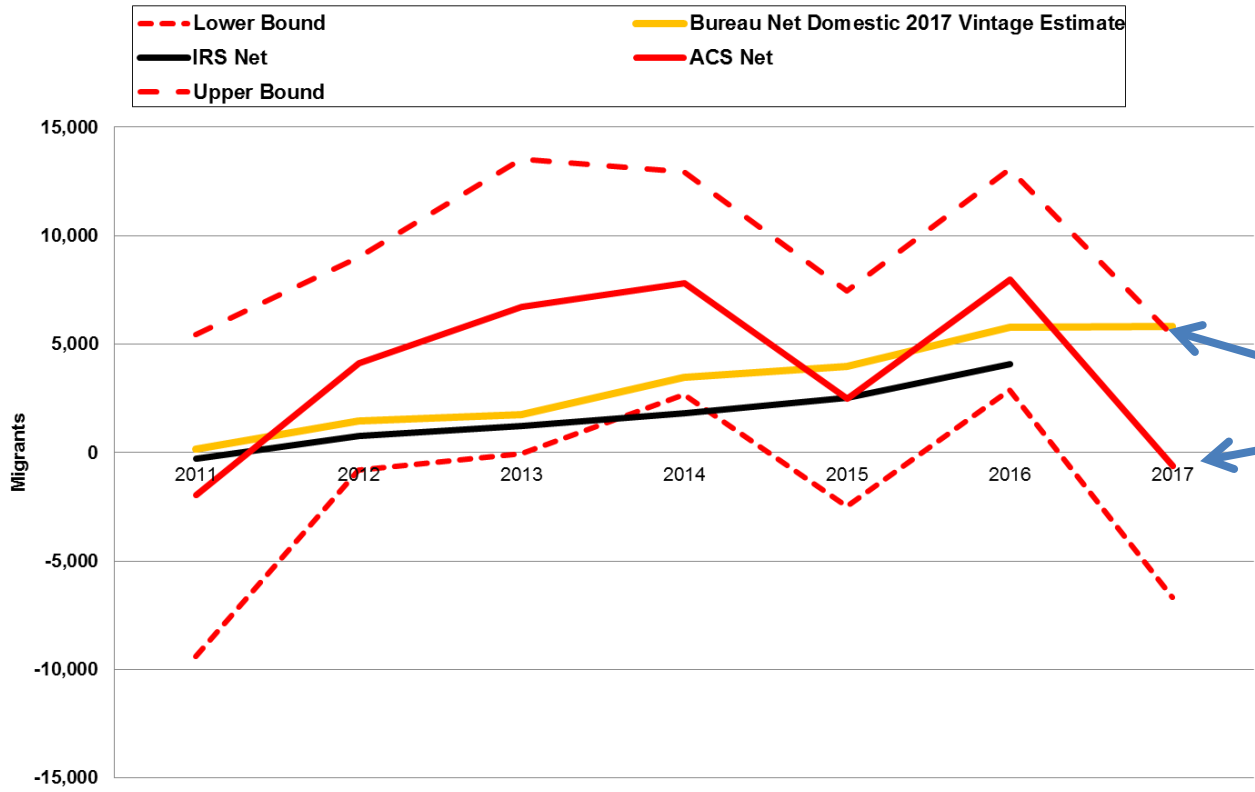
Statistical Significance Tests for Washoe County Owner Occupied Housing Net Migration



The Population Division's estimates are used as control totals for ACS

- ACS and the population estimates recently diverged
- Estimates are subject to revisions but ACS Is not

Comparing Census Bureau Population Estimate's, American Community Survey's and Nevada's Residual Estimate of Migration for Washoe County 2011 to 2017



Conclusions and Observations 1:

Discussion about issues of public importance are becoming driven by sources with limited transparency and time series.

ACS helps ground truth anecdotal stories

- **Estimates, levels and proportions may be best**
- **Provides a time series**
- **For large jurisdictions comparisons to other areas and trends may be the best use rather than getting into the statistical weeds.**

Conclusions and Observations 2:

ACS has many moving parts that are subject to error

- **Estimates as a control total**
 - **Uses ACS for international migration estimates**
 - **Revised data and methods over the course of the decade**
- **Sampling error and timing**
- **The user still needs to be aware of these issues depending on the decision that is being made.**
 - **What policy is being discussed?**
 - **What is the risk of any error causing unintended consequences?**

What will be the impact of Differential Privacy?

As I was preparing this presentation, I got a call regarding school enrollment projections:

- There was a need to look at how likely the current projections were
- The range of the amount being discussed was between 0.25 and 1%
- One thought I had was to look at ACS
- The projection is being used to determine State budget expenditures for education
- ACS Margins of Error are of such size that they are not a good foundation for a projection.
- How will Differential Privacy's noise ripple through data from programs that are interdependent?

ACS 2017 Estimate of Nevada School Enrollment By Age

| | Estimate | MOE | Percent MOE |
|-----------------------------------|-----------------|------------|--------------------|
| Enrolled in public school: | 312,349 | 5,421 | 1.7% |
| 3 and 4 years | 9,815 | 1,688 | 17.2% |
| 5 to 9 years | 89,525 | 3,549 | 4.0% |
| 10 to 14 years | 86,183 | 4,083 | 4.7% |
| 15 to 17 years | 53,591 | 1,772 | 3.3% |
| 18 and 19 years | 17,465 | 1,733 | 9.9% |
| | 256,579 | 6,185 | 2.4% |

Questions?

**Jeff Hardcastle,
Nevada State Demographer
Nevada Department of Taxation
Reno Office: 4600 Kietzke Lane, Building L Suite 235 Reno, NV 89502
(Direct) (775) 687-9961
jhardcastle@tax.state.nv.us**